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Processes by which different aspects of marital conflict affect adolescent adjustment: the mediating role of different dimensions of parental behavior

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Processes by which different aspects of marital conflict affect adolescent adjustment: The mediating role of different dimensions of parental behavior

by

Christine Annette Johnson

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ABSTRACT

In recent years researchers have argued that rather than asking if marital conflict influences child adjustment, research questions need to move to ones that address what specific aspects of marital conflict are related to child adjustment, and what are the processes or mechanisms by which marital conflict affects children. This study used data from the first three waves of the Iowa Youth and Families Project to examine how different aspects of marital conflict affect adolescent adjustment through different dimensions of parental behavior. Observed marital conflict was the only aspect of marital discord to have a significant indirect effect on the adolescent outcomes. Mother's negative affect mediated the effect of observed marital conflict on three adolescent outcomes: boys' externalization problems, girls' externalization problems, and boys' internalization problems. Mothers' positive affect mediated the effect of observed marital conflict on boys' emotional well-being and girls' externalization problems. Fathers' management mediated the effect of observed marital conflict on boys' and girls' externalization problems. The remaining parental behaviors, mother's management, fathers' negative affect, and fathers' positive affect mediated the effect of observed marital conflict on girls' externalization problems. In addition to these indirect effects, marital conflict over child-rearing had direct influences upon boys' emotional well-being, girls' emotional well-being, boys' externalizing problems, and girls' internalizing problems. Observed marital conflict had significant direct effects on girls' externalizing and internalizing problems. General marital distress had significant direct effects on girls' internalizing problems, although the effect was in the opposite direction from what was predicted.

CHAPTER ONE:

INTRODUCTION

Researchers began to document empirically the relationship between marital discord and child adjustment beginning in the 1940s. This early work first showed a relationship between overall marital discord or divorce and child development and then went on to identify marital conflict as the aspect of marital discord or divorce that was most associated with child adjustment (Fincham, 1994). In the intervening years numerous studies have provided evidence of a relationship between interparental conflict and child adjustment (see reviews in Emery, 1982; Grych and Fincham, 1990; Reid and Crisafulli, 1990). Exposure to high levels of interparental conflict has been associated with the development of a wide variety of problems in children, including externalization problems, internalization problems, social maladjustment, and deficits in cognitive competency (see reviews in Cummings and Davies, 1994; Grych and Fincham, 1990). Additionally, the relationship between marital conflict and child adjustment has been documented in both clinical and nonclinical samples (Grych and Fincham, 1990; Reid and Crisafulli, 1990), among boys as well as girls (Emery and O'Leary, 1984; Purcell and Kaslow, 1994), and across a wide range of ages including preschoolers (Dadds and Powell, 1991; Jouriles, Pfiffner, and O'Leary, 1988), school-aged children (Amato, 1986; Cummings, Davies, and Simpson, 1994; Smith and Jenkins, 1991) and adolescents (Amato, 1986; Long, Forehand, Fauber, and Brody, 1987).

While the association between marital conflict and child adjustment problems is well-documented, not all, or even most children exposed to marital conflict will develop emotional and/or behavior problems (Cummings and Davies, 1994). Researchers have asserted that rather than addressing the question of an overall relationship between marital

conflict and child adjustment, the research question needs to be changed to one that asks what specific aspects of marital conflict are related to what particular aspects of child adjustment (Fincham, 1994). Others have echoed this idea, noting that research has lagged behind theory in this area (Emery, Joyce, and Fincham, 1987). In particular, prior research has focused exclusively on the outcomes of marital conflict in terms of children's psychological functioning, whereas several theorists have shifted focus to the examination of hypothesized processes by which marital and child problems develop. The present study attempts to test theoretical propositions regarding how marital conflict affects children.

Fincham, Grych, and Osborne (1994) claim that it is time for investigators to first identify specific aspects of marital conflict that predict child and adolescent outcomes. Secondly, they argue it is necessary to understand under what conditions such relationships occur, or how marital conflict is related to others aspects of family functioning that also affect children. Similarly, Jouriles, Farris, and McDonald (1991) note that most theory on marital functioning and parenting is presented in a general manner and does not focus on the influences of specific marital behaviors or particular dimensions of parenting. The present study will address both of these issues. Two general questions will be examined: 1) What are the aspects of marital discord that lead to adolescent maladjustment?, and 2) How do these aspects of marital conflict relate to different parental behaviors that, in turn, influence adolescents' functioning?

Two theoretical frameworks are especially pertinent for the present investigation. Grych and Fincham's (1990) Cognitive Contextual Framework proposes that marital conflict that is intense, poorly resolved, and child-related represents a destructive form of conflict that is particularly upsetting to children. Their framework also proposes that one cognition that is important in appraising the impact of marital conflict on children is the degree of threat perceived by the child. They argue that marital conflict that is more

threatening to children will invoke greater fear in children and will, therefore, have a greater impact on them.

Davies and Cummings' (1994) Emotional Security Hypothesis proposes that some forms of marital conflict undermine children's sense of emotional security and amplify the impact of marital conflict. They note that forms of marital conflict that are intense and involve direct threat to children are the most disturbing to them. They propose that marital disputes over child-related issues are particularly stressful for children, and that children's emotional security, as reflected by fear and anxiety, is increased when marital conflict concerns them.

Other hypotheses proposed to explain how marital conflict influences child adjustment have generally focused on three aspects of parent-child interaction: parent-child hostility, discipline practices, and quality of the parent-child relationship. The Spillover Hypothesis argues that the negative affect from the marital relationship "spills over" to the parent-child relationship (Engfer, 1988). Parents who engage in conflictual arguments with their spouse may also be more likely to act negatively with their children, which, in turn, contributes to children's adjustment difficulties. The Disrupted Discipline Hypothesis (Emery, 1982) argues that conflict in the marital relationship adversely affects the quality and consistency of parenting. Parents experiencing marital distress may be lax in their child management behavior or the parents may use opposing discipline strategies. Inconsistencies in parental discipline then contribute to adjustment problems in children. Finally, the "loss of love" hypothesis (Emery and O'Leary, 1982) proposes that frequent interparental conflict may be emotionally draining to parents and thus reduce their ability to respond sensitively and appropriately to their children's needs. This lack of positive affective interaction, in turn, is associated with emotional and behavioral problems for children.

The present study builds on these theoretical notions and also attempts to address limitations in previous research. Earlier studies have tended to aggregate different parental behaviors when examining their mediational influence in the association between marital conflict and child adjustment, often combining management strategies with positive or negative affect. The present study will examine how three distinct parental behaviors serve to mediate the impact of marital conflict on child adjustment. Secondly, previous studies comparing hypothesized mediational influences of different parental behaviors have tended to rely on only mothers' parental behavior. The present study evaluates both fathers' and mothers' parental behaviors.

Another important aspect of the present study is that it examines the influence of marital conflict on three separate adolescent outcomes. Previous studies have tended to examine a single domain of maladjustment, such as conduct problems, internalizing symptoms, or externalizing problems. Alternatively, some studies have examined self-esteem or psychological well-being, or have aggregated various dimensions of adolescent adjustment. The present study will use emotional well-being, externalizing problems, and internalizing problems as separate outcome measures. Another unique aspect of the present study is that it employs longitudinal data to examine the relationships among the concepts, helping to insure the appropriate temporal ordering among the study constructs in relation to the hypothesized causal processes.

As mentioned previously, there are two general research questions proposed in the present study. The first research question has been proposed by earlier studies and asks, "What are the specific aspects of marital disharmony that lead to adolescent adjustment problems?" This study proposes that both overt, hostile marital conflict and interparental conflict over child-rearing issues will have the most adverse influences on adolescent adjustment. Adolescents should feel greater threat and fear from marital conflict that is openly hostile than marital conflict that is quite subtle or occurs without their knowledge.

Similarly, adolescents should feel more responsible for and involved in interparental conflicts that pertain to the topic of child-rearing. Furthermore, it is proposed that both overt, hostile marital conflict and interparental conflict over child-rearing will have negative effects on adolescent functioning independent of the influence of general marital distress.

In addition to these propositions, the proposed model is designed to address research questions regarding the mediating mechanisms between marital conflict and child adjustment that have not been addressed in previous research. The second general research question concerns how the various aspects of the marital relationship each relate to various parental behaviors that, in turn, influence adolescent functioning. The conceptual model proposes that these aspects of marital discord will each influence parental behavior, which will, in turn, influence adolescent adjustment. The mediating influence of three parental behaviors will be examined separately: parental negative affect, parental management strategies, and parental positive affect. More specifically, the conceptual model proposes that overt marital conflict and marital conflict over child rearing will be significantly and positively associated with parental negative affect and significantly and negatively associated with both parental management and parental positive affect, controlling for the influence of general marital distress. The conceptual model then hypothesizes that parental negative affect will be significantly and positively associated with adolescent adjustment problems and that both parental management and parental positive affect will be significantly and negatively associated with adolescent adjustment problems.

CHAPTER TWO:

LITERATURE REVIEW

This chapter begins by reviewing the various types of developmental difficulties that children and adolescents experience as a consequence of living in a home with frequent and/or intense interparental conflict. Next, the strength of the relationship between marital conflict and child adjustment problems is reviewed, followed by a description of gender differences in response to marital distress. Then the review will focus on specific aspects of marital conflict that are known to affect children, with a particular interest in the content of the interparental conflict and the child's perception of marital conflict as a threat. Next, the review will examine mediating mechanisms that have been proposed to account for the relationship between marital conflict and child adjustment, with particular attention to the quality of the affective relationship between parents and children and in discipline or management strategies used by parents. Finally, this chapter will end with a description of the proposed model for the study.

Types of Problems Experienced by Children Living in Maritally Discordant Homes

Emery (1982) notes that early research on marital discord and child problems focused on problems of undercontrol, such as delinquency, and significant associations were found. Emery (1982) reports that for every study he reviewed, marital discord was related to some form of undercontrolled behavior, such as aggression, antisocial behavior, or conduct problems. However, Emery found that the results for overcontrolled behaviors were inconsistent.

Over a decade later, Cummings and Davies (1994) report similar associations. They note that children from high-conflict homes are vulnerable to behavioral and emotional disturbances, social and interpersonal problems, and impairment in thought processes. More specifically, children who are exposed to high levels of marital conflict are especially susceptible to externalizing disorders such as aggression, conduct problems, and delinquency. Cummings and Davies (1994) report a less robust relationship between marital conflict and children's internalization problems, including depression, anxiety, and withdrawal. They also report that high levels of marital conflict are associated with the development of dysfunctional interpersonal and social skills and diminished academic performance.

Among the studies Grych and Fincham (1990) reviewed, marital conflict was associated with a similar range of negative child outcomes including externalizing problems such as conduct disorder, aggression, delinquency/antisocial behavior; internalizing problems such as depression and anxiety/withdrawal; social competency; and cognitive competency. Easterbrooks and Emde (1988) note that most studies linking marital distress and child outcomes concern school-age children generally from clinical samples. They write that overall, the literature in this area finds that in two-parent families as well as divorced families, in clinical and non-clinical samples, marital discord is related to poorer child functioning, particularly in the areas of behavioral conduct problems or reduced impulse control.

How Strong is the Association between Marital Conflict and Child Adjustment Problems?

Given that many studies have reported an association between marital conflict and a variety of child adjustment problems, the next question to ask is, "How strong is the association between marital discord and child adjustment difficulties?" Cummings and

Davies (1994) note that while marital conflict predicts child behavior problems, not all, or even most, children exposed to marital conflict develop behavioral problems. They report that correlations between interparental conflict and child adjustment problems are typically moderate in magnitude, ranging between .20 and .45. Similarly, Fincham (1994) reports there is variation in the size of the correlations obtained between marital distress and child adjustment, with most studies showing modest correlations ranging from .25 to .40. Therefore, marital conflict generally accounts for from 4% to 20% of the variation in child adjustment problems. Fincham, Grych, and Osborne (1994) report that most data have shown that marital discord explains less than 10% of the variance in child adjustment.

Cummings and Davies (1994) also note, however, that conflict between spouses is more strongly associated with poor child adjustment in severely distressed families. They report that 40% to 50% of children exposed to severe marital hostility exhibit extreme behavior problems. Using a community sample, Lorenz, Hoven, Andrews and Bird (1995) found that the association between marital discord and symptoms of child psychopathology remained significant when several other individual (gender, race, age of child) and family (socio-economic status, family structure, and family history of psychiatric disorder) risk factors were controlled. Similarly, using a non-clinical sample, Smith and Jenkins (1991) found a moderately strong association between an outside observer's rating of marital disharmony and child outcomes even after controlling for possible confounding variables.

Different methodological procedures may lead to different conclusions about the strength of the association between interparental conflict and child behavior problems. Some studies have found that the relationship is stronger when a single source is used to report both marital discord and child functioning. Results of a meta-analysis based on 33 published articles suggested that when parents are the sole source of data, the relationship between marital discord and child behavior problems is stronger than when either of the

variables were provided by another source (Reid and Crisafulli, 1990). Emery and O'Leary (1984) found that correlations between mothers' ratings of marital discord and mothers' ratings of their children's adjustment were consistently statistically significant and moderate in magnitude. But, correlations between mothers' ratings of marital discord and teachers' evaluations of children's school adjustment were consistently low in magnitude with only a few significant correlations. Burman, John, and Margolin (1987) found a similar pattern of findings using child-reported adjustment, but for boys' reports only. They compared the association between marital conflict and marital satisfaction reported by the parent with child adjustment reported by the child versus child adjustment reported by the parent. For boys, marital satisfaction and conflict were related to both fathers' and mother's reports of child behavior, but not to boy's self-reported adjustment. For girls, there was little association between the marital measures and adjustment, regardless of reporter.

Results from one study suggest that as the level of marital distress increases, there is a decrease in the degree of agreement between the parents' ratings of their children's behavior. Rosenberg and Joshi (1986) found that the greater the marital discord as rated by an experienced clinician, the greater the differences between the mothers' and fathers' ratings of behavior difficulties in their children. This finding suggests that little confidence can be placed on studies with high levels of marital discord that rely on only one parent's perspective to measure children's behavior.

Other studies have not found differences in the relationship between marital conflict and child adjustment when different reporters have been used to assess marital conflict. Weirson, Forehand, and McCombs (1988) did <u>not</u> find significant differences between adolescent perception of marital conflict and parent report of conflict in their respective associations with teachers' assessments of adolescent cognitive and social functioning.

In addition to the methodology used in the study, another consideration concerning the strength of the association between marital conflict and child adjustment is the type of sample the study employed. O'Leary and Emery (1984) reviewed the research in this area and concluded that the relationship appears to be stronger in families drawn from clinic as opposed to non-clinic populations. Jouriles, Bourg, and Farris (1991), using a national sample of over 1,000 families, found that the correlation between marital adjustment and child conduct problems was stronger in families of clinic-referred children,compared with families of non-clinic children. Gartland and Day (1991) proposed that the associations between marital conflict and child adjustment are lower in non-clinical samples because they may not focus on the child in the family with the most adjustment problems. Using a non-clinical sample, they computed correlations between interparental conflict and child behavior first using a sample of targeted adolescent boys and then using the son in the family who was experiencing the greatest behavioral difficulty. They found that when the association was computed using the information pertaining to the son with the most behavior difficulties, the coefficients were similar to those reported for clinical samples. The authors suggest that their results place doubt on previous studies that have reported lower correlations between marital conflict and child behavior in non-clinical compared to clinical samples.

Lastly, another line of research in this area has focused on the relative influence of marital conflict on child outcomes compared to the influence of family structure. Recent studies have examined the relationship between interparental conflict and child adjustment comparing children from intact homes with children from homes where the parents have separated or divorced. For example, Peterson and Zill (1986) found that persistent marital conflict in intact homes was as harmful as parental disruption in terms of children's depression/withdrawal, antisocial behavior, and impulse/hyperactive behavior. Bishop and Ingersol (1989) investigated the effects of marital conflict on the self-concepts of youth

aged 8-12 years old from intact and separated families. Families were divided into high and low interparental hostility groups based on maternal reports of interparental conflict. Children from families with high interparental hostility consistently had more negative self-concept scores than children from families with low interparental hostility, regardless of family structure. Long, Forehand, Fauber, and Brody (1987) found that interparental conflict was more important than recent parental divorce in predicting teachers' ratings of social and cognitive competence. Similarly, Forehand, McCombs, Long, Brody, and Fauber (1988) reported that interparental conflict, regardless of marital status, exerted a significant influence on early adolescents' social adjustment. High interparental conflict was associated with lower social competence, lower social problem-solving skills, and more depressive symptoms. Forehand and his colleagues (Forehand, Neighbors, Devine and Armistead (1994) have proposed that the current level of interparental conflict at any point in time in a family, whether intact or divorced, is a critical variable that provides as much, if not more, information about an adolescent's functioning than the marital status of his/her parents. They found that after marital status is accounted for in the analysis, the current level of interparental hostility continued to be a significant predictor of externalizing problems, internalizing problems, social competence, and cognitive competence.

Using detailed information on parental marital quality prior to divorce, Amato, Loomis, and Booth (1995) were able to prospectively estimate the effects of both divorce and pre-divorce marital conflict on young adults' emotional adjustment. They found that parental marital discord in intact families is associated with increased offspring psychological distress and decreased offspring happiness. But furthermore, they found that psychological well-being was the lowest when low-level marital conflict is followed by divorce and also when high-level marital conflict is <u>not</u> followed by divorce. Similarly, psychological well-being was lower among children from intact homes with high-levels of marital conflict than among children from divorced homes with high-levels of pre-divorce

marital conflict. The results from these studies support the contention that marital conflict has a significant influence on child adjustment, independent of the effect of marital status.

Gender Differences in Response to Marital Conflict

Grych and Fincham (1990) note that early investigations of marital conflict and child adjustment found that conflict was more closely related to behavior problems in boys than in girls. For example, Emery and O'Leary (1982) found that neither mothers' nor children's ratings of marital discord were significantly correlated with mothers' ratings of behavior problems for girls. But for boys, their ratings of marital discord were significantly correlated to several of their mothers' ratings of behavior problems. And in their meta-analytic review, Reid and Crisafulli (1990) found that the relationship between marital discord and child behavior problems was stronger for boys than girls.

Emery (1982) notes that there may be a gender difference in the type of behavioral response to marital distress. He asserts that boys may respond to interparental conflict in an outward maladaptive manner that is likely to draw attention. Emery (1982) claims that girls are just as likely as boys to be affected by marital conflict, but may react in a manner that is more appropriate to their sex role, such as by becoming anxious or withdrawn. Cummings and Davies (1994) acknowledge that the issue of gender differences in vulnerability to marital conflict is not clear. They too note that differences between boys and girls may not be in the degree of disturbance, but instead in the manner of expression. Cummings, Vogel, Cummings, and El-Sheikh (1989) reported that boys perceived angry adult interactions more negatively than did girls, and boys reacted with more anger than did girls in response to angry adult interactions. Girls showed a trend toward becoming more distressed than boys in reaction to angry adult exchanges. Cummings, Ballard, El-Sheikh, and Lake (1991) found evidence to suggest that gender differences in vulnerability to marital conflict may change with age. During early adolescence, girls reported greater

feelings of anger than boys in response to inter-adult conflict, and boys reported greater feelings of sadness that girls.

While there is evidence that boys and girls may respond differently to marital conflict, it appears that boys and girls are equally likely to be exposed to and to be aware of marital conflict. Emery and O'Leary (1982) found that boys and girls did not differ in their ratings of their perceptions of parental marital discord, and similarly, Dadds, Sheffield, and Holbeck (1990) did not find a difference between boys and girls in their reporting of level of marital discord. Emery and O'Leary (1982) claim that results such as these suggest that boys and girls are exposed to approximately equal amounts of marital discord.

In their review of research studies in this area, Purcell and Kaslow (1994) suggest that, among intact families, the association between marital discord and child adjustment problems is not always stronger for boys than it is for girls. While early studies reported that conflict was more closely related to behavior problems in boys than in girls, more recent studies have found significant relationships between marital conflict and girls' adjustment. Emery and O'Leary (1984) found that mothers' ratings of marital discord were correlated with mothers' ratings of girls' conduct problems and delinquency and with teachers' ratings of girls' personality difficulties, immaturity, and delinquency. Jouriles, Pfiffner, and O'Leary (1988) found that overt marital conflict was associated with mothers' reports of girls' conduct problems but not boys' conduct problems. Similarly, Amato (1986) found stronger associations for young girls than for young boys between marital conflict and self-esteem. Taken together, these studies suggest that both boys and girls are affected negatively by exposure to interparental conflict.

Specific Aspects of Marital Conflict that are Particularly Harmful to Children

One line of research (Cummings and colleagues) on the influence of marital conflict on child adjustment has focused on the context and stimulus characteristics of angry expressions between adults. Davies and Cummings (1994) propose an Emotional Security Hypothesis to describe children's reactions, particularly emotional reactions, to marital conflict. They hypothesize that some forms of family conflict contribute to children's sense of emotional security, and that other forms of conflict undermine their emotional security. They note that children's emotional security is influenced by the quality of parent-child relations, and specifically the quality of parent-child attachments. But they also propose that children's emotional security is derived from the quality of the marital relationship.

Davies and Cummings (1994) purport that children have sound reason to be concerned about the quality of marital relations: Marital conflict can be emotionally unpleasant, threaten the child's emotional or even physical well-being, produce in a breakdown of parental discipline practices, and marital conflict can reduce the emotional availability of parents. They argue that children who are emotionally secure about their parents' marriage have confidence in the stability and predictability of marital interactions, expectations that marital conflicts will eventually be resolved, and confidence in the psychological and physical availability of their parents. They also perceive that marital disputes pose no threat to their well-being.

One goal of Davies and Cummings' emotional security hypothesis is to specify the expressions of conflict that undermine children's emotional security and that amplify the impact of marital conflict. Cummings and Davies (1994) propose that anger is not a homogeneous stimulus, but can vary on a variety of dimensions and domains. They argue that understanding the impact of marital conflict requires the differentiation of conflict. Davies and Cummings (1994) note that forms of marital conflict expression that reflect

intense marital difficulties and that involve direct threat to children are the most disturbing to children. Their line of research has examined five dimensions of marital conflict: the frequency of angry exchanges, the mode of anger expression, the intensity of the angry exchanges, differences in how angry exchanges are resolved, and the content of the angry exchanges.

Evidence from their research suggests that the more frequent the marital conflict, the more harmful it is for children. Using a diary method, in which mothers kept a count of marital conflicts over a nine-month period, Cummings and colleagues (Cummings, Zahn-Waxler, and Radke-Yarrow, 1981; Cummings, Zahn-Waxler, and Radke-Yarrow, 1984) reported that more frequent interparental conflicts were related to greater distress, insecurity, and anger in children. In the laboratory, repeated exposure to inter-adult anger has also been associated with increased distress and aggression in children (Cummings, Iannoti, and Zahn-Waxler, 1985). Furthermore, Weirson, Forehand, and McCombs (1988) found that adolescent perception of the frequency of marital conflict contributed unique variance in predicting cognitive functioning and conduct problems beyond that accounted for by parental reports on the frequency of the marital conflict. The research by Cummings and his associates also suggests that the mode of anger expression may have different effects on children. Cummings, Vogel, Cummings, and El-Sheikh (1989) report that nonverbal and verbal anger expressions may have a similar impact on children, but that anger involving physical contact is perceived by children as the most negative form of anger expression.

Cummings and Davies (1994) acknowledge that intensity is another dimension of anger expression. Grych and Fincham (1993) report that children reacted to high-intensity conflicts with greater anger, sadness, self-blame, and helplessness in comparison to low-intensity conflicts. The degree to which arguments are resolved is also related to the negativity of children's reactions. Cummings et al. (1989) report that resolved disputes are

perceived as less angry and induce less negative emotional responses in children compared to unresolved disputes. Fully resolved arguments were found to elicit reactions that were indistinguishable from entirely friendly interactions (Cummings, Ballard, El-Sheikh, and Lake, 1991). Further studies have found that children's negative emotional reactions can be reduced by providing an explanation of resolution even in the absence of observing the resolution (Cummings, Simpson, and Wilson, 1993).

Cummings and Davies (1994) note that thematic content is a final aspect of conflict expression. Davies and Cummings (1994) note that marital disputes over child-related issues are particularly stressful for children. They propose that children are more likely to become distressed when witnessing interparental conflicts that are about them. They argue that children's emotional insecurity, as reflected by fear and anxiety, increases when marital conflict concerns them.

Doing similar research, another group of researchers, Grych, Fincham, and colleagues, propose that there are specific child cognitions of marital conflict that are particularly relevant for youth maladjustment. Grych and Fincham (1990) suggest that the nature of marital conflict, and not simply its frequency, is critical for understanding its relation to behavioral and emotional problems in children. Grych and Fincham (1990) describe a framework that outlines characteristics of marital conflict proposed to shape the impact of conflict on children. They suggest that marital conflict that is hostile or aggressive, poorly resolved, and concerns the child represents a destructive form of conflict that is particularly upsetting to children. Their framework proposes that conflict that is intense, poorly resolved, and child-related is likely to be most highly associated with child problems.

A second fundamental proposition for their framework concerns children's perceptions and appraisals of the conflict. Grych and Fincham (1990) proposed that the effect of interparental conflict is mediated by children's appraisal of the conflict, which are

shaped by the characteristics of the conflict. The term "appraisal" is used in their framework to denote the process whereby a child evaluates the significance of an event for his/her well-being. Their cognitive contextual framework claims three types of cognitions are likely to be most important in appraising marital conflict: the degree of threat perceived by the child, the child's attributions of cause and blame for the marital conflict, and the child's coping efficacy.

Grych and Fincham (1990) propose that interparental conflict may be threatening for many reasons. Children may fear that anger will be directed at them, that one of their parents will be hurt, or even that their parents will divorce. Grych and Fincham (1990) claim that, to the extent these types of fears are present, conflict will be significant for children. The cognitive contextual framework argues that judgments regarding why the conflict began and who is to blame are also important for children's appraisals of the meaning of the conflict. Particularly, beliefs about the child's role in causing the conflict are thought to directly affect how relevant the conflict is to children. Finally, children's perceived ability to cope with the conflict is thought to shape its impact. If children feel unable to respond effectively, marital conflict is likely to be more stressful. Fincham, Grych, and Osborne (1994) note that children who feel very threatened and unable to cope may develop anxiety problems if the marital conflict is frequent, whereas children who blame themselves for the conflict may experience deficits in self-esteem or symptoms of depression.

Marital conflict as a threat to children

Researchers have suggested that if fears of parental divorce increase the threat of the marital conflict for children, children whose parents engage in behaviors that are destructive to the stability of their marriage may be especially threatened by marital conflict (Katz and Gottman, 1993). Several studies have tested the ideas put forth by these two lines of

research, examining how children's specific perceptions and appraisals of marital conflict are related to child adjustment. In particular, these studies have been concerned with children's appraisals of threat and self-blame in response to marital conflict and also with children's anger and fear as behavioral and emotional responses to marital conflict.

Ballard, Cummings, and Larkin (1993) examined children's responses to inter-adult emotional expressions, including anger expressions. The children were classified as coming from maritally distressed or non-distressed homes. In a laboratory situation, the children overheard taped verbal interactions between a man and a woman. The interactions included friendly, angry, and resolved portions. Following the verbal interactions, the children were interviewed concerning the emotional responses to the interactions. Children, regardless of gender, reacted with more reported anger, sadness, and fear in response to the anger condition than in response to the friendly and reconciliation conditions. In addition, children from maritally distressed homes reported more fear in response to inter-adult anger than did children from non-distressed homes. The authors suggest that children are sensitized to anger and evidence heightened behavioral and emotional responses, including anger and fear, as a result of repeated exposure to anger.

O'Brien, Margolin, John, and Krueger (1991) also investigated children's responses to simulated interparental conflict. Boys from homes where the marital relationship was characterized as physically aggressive displayed more arousal and inability to handle the simulated conflict situation than boys from homes where the marital relationship was characterized by verbal hostility and boys from homes with low marital conflict. Boys from low marital conflict homes were more optimistic about the simulated conflict. The authors propose that marital conflict experienced in the home may influence children's appraisals of marital interactions.

Grych, Seid, and Fincham (1992) investigated the validity of the Children's Perception of Interparental Conflict Scale, a measurement instrument designed by the

authors to assess multiple aspects of marital conflict from the child's viewpoint. The authors found that both boys' and girls' ratings of the degree to which they felt threatened by and unable to cope effectively with conflict were significantly related to greater self-reported internalization problems. Children's ratings of the degree to which the conflict concerned them and to which they blamed themselves for the conflict were also associated with higher scores on self-reports of internaiizing problems for both boys and girls. The authors suggest that the relation between marital conflict and internalizing problems depends of the degree to which children feel threatened and blame themselves when conflict occurs.

Cummings, Davies, and Simpson (1994) also applied Grych and Fincham's questionnaire assessing children's perceptions of the destructiveness of marital conflict, the perceived threat to self, and the children's feelings of self-blame for the marital conflict. The authors note that the processes by which boys and girls are affected by marital conflict may be quite different. They proposed that because girls are more prone to take responsibility for marital conflict, they may be more susceptible to self-blame. Boys, on the other hand, show more anger and aggressiveness in response to elevated interparental conflict, which the authors suggest may reflect a greater perception of threat to self. The researchers found that appraisals of threat were a stronger predictor of externalizing problems for boys, whereas appraisals of self-blame were a better predictor of internalizing problems for girls.

Cummings, Davies, and Simpson (1994) also proposed that as children perceive marital conflict as more destructive, boys' appraisals of threat should increase while girls' appraisals of self-blame should increase. The results supported their hypotheses. For boys, but not for girls, as conflict properties increased, appraisals of threat significantly increased. For girls, but not for boys, as conflict properties increased, appraisal of self-

blame significantly increased. The authors suggest that boys may be less shielded from marital conflict and have higher levels of perceived threat as a result.

Openly expressed conflict versus marital satisfaction

Researchers have acknowledged that overt interparental conflict is more important in predicting child adjustment problems than is marital satisfaction. Emery (1982) asserts that conflict that is openly hostile exposes the child to more harmful parental interactions than general marital dissatisfaction. Similarly, Katz and Gottman (1993) propose that once married couples reach the point at which their interactions are marked by hostility and contempt, their arguments are intense and easily overheard by their children and may lead to greater adjustment problems in children. Fincham (1994) notes that overt interparental hostility to which children are exposed has recently been identified as the most relevant form of marital discord for understanding child adjustment problems.

Hetherington, Cox, and Cox (1982) divided intact and divorced families into an overt interparental conflict group or an encapsulated interparental conflict group. Encapsulated conflict describes discord between parents that is concealed from the children. Couples who engaged in encapsulated conflict were characterized as expressing extreme dissatisfaction with their relationship and quarreling frequently when alone, but not engaging in conflict in front of the children. The researchers report that overt interparental conflict had adverse impacts on children's problem behaviors and social interactions, while encapsulated interparental conflict to which the children were not directly exposed had no apparent negative effect on children's functioning.

Other findings suggest that parents of children with adjustment problems may express more open hostility toward one another than parents of children without adjustment problems. Johnson and O'Leary (1987) compared the interparental behaviors of girls displaying conduct problems with girls not displaying conduct problems. They found that

parents of conduct disordered girls were more hostile in non-child contexts than were parents of non-conduct disordered girls. Mothers of girls displaying conduct problems were more openly hostile toward their spouses than were mothers of girls not displaying conduct problems. Similarly, fathers of conduct disordered girls generally adopted a more aggressive behavior style when interacting with their wives compared to fathers of non-disordered girls. But, the parents in the two groups did not differ from one another on global marital satisfaction. Similarly, Whittaker and Bry (1991) found during problem-solving family discussions, parents of adolescents who were seeking treatment at their clinic were much more likely to disagree overtly with one another than were parents of adolescents who were not seeking treatment.

Other studies have examined the impact of overt marital hostility while controlling for the effect of general marital satisfaction. Jouriles, Murphy, and O'Leary (1989), using a sample of married couples who were seeking marital therapy, found that marital aggression predicted child problems independent of general marital discord. Parental ratings of marital aggression contributed significant unique variance to the prediction of conduct disorders and inadequacy-immaturity for boys, and inadequacy-immaturity for girls after controlling for marital discord. Katz and Gottman (1993) found that children of married couples who engaged in mutually hostile communication patterns during a laboratory problems-solving task exhibited greater externalizing behavior problems three years later. The couples' level of marital satisfaction was not related to the child outcomes. Taken together, the findings from these studies suggests that marital conflict that is openly hostile and to which the child is exposed may be especially threatening, harmful, and predictive of child adjustment problems. Findings from other studies have suggested that interparental conflict specific to the topic of child-rearing is the aspect of marital conflict that is particularly important when examining child behavioral and emotional problems.

Interparental conflict over child-rearing

Emery, Joyce, and Fincham (1987) note that marital conflict between two parents can be contained to a few subjects or content areas or it can be rather global. They report that one content area of marital conflict seems to be particularly harmful to children: disagreements about discipline. Studies have found that marital conflict pertaining to child-rearing is related to a range of behavior problems in children. Block, Block, and Morrison (1981) evaluated the relationship between parental disagreements over child-rearing and various child behaviors. They report that parental disagreements over child-rearing values were significantly correlated with deficits in children's intellectual functioning, maturity in social relationships, controlling impulses, autonomy, and appropriate expressions of affect.

Jouriles, Farris, and McDonald (1991) believe that parental child-rearing disagreements have a stronger impact on the development of child behavior problems than general marital discord for two reasons. First, children may be more likely to blame themselves for parental disputes over child-rearing than for disputes about other topics. Second, children who are aware of parental disagreements concerning appropriate child behavior may be uncertain about the rules regarding their behavior, and they may be forced to decide what is acceptable and behave accordingly. Parents may then perceive their children as misbehaving. Empirical studies have suggested that marital conflict specific to the topic of child-rearing is a better predictor of child behavior problems than either general marital distress or conflicts in areas not related to child-rearing. Snyder, Klein, Gdowski, Faulstich, and LaCombe (1988) found that parents' reports of their children's behavioral and emotional difficulties were consistently and positively related with parents' reports of spousal conflict over child-rearing, but not with measures of global marital distress or spousal conflict in areas not related to child-rearing. They report significant correlations between interparental conflict over child-rearing and children's achievement, depression, delinquency, withdrawal, anxiety, and social skills. Neither global marital distress nor

interparental conflict over finances were significantly correlated with any of these child outcomes.

Dadds and Powell (1991) compared the effects of global marital adjustment and parental disagreements over child-rearing in the prediction of childhood behavior problems. For both boys and girls, interparental conflict over parenting significantly predicted childhood aggression after controlling for level of global marital adjustment. Neither interparental conflict over parenting or global marital adjustment predicted anxiety in girls, but both parenting disagreements and marital adjustment significantly predicted anxiety for boys. Similarly, Jouriles, Murphy, Farris, Smith, Richters, and Waters (1991) proposed that specific aspects of marital conflict, such as parental disagreements over child-rearing, are more important for understanding the development of problematic child behavior than the level of general marital adjustment. Using a sample of boys, they found that child-rearing disagreements predicted a greater variety of behavior problems than global marital adjustment, and child-rearing disagreements significantly predicted internalizing problems (but not externalizing problems) after controlling for both global marital adjustment and the boys' exposure to marital conflict. In a separate study in the same paper, the authors reported that disagreements over child-rearing correlated with a greater variety of behavior problems than disagreements that did not involve the child, and child-rearing disagreements significantly predicted behavior problems after controlling for level of non-child disagreements and the boy's exposure to marital conflict.

Grych and Fincham (1990) propose that marital conflict over child-rearing is associated with child outcomes because it invokes greater feelings of fear and self-blame in children. In a test of their ideas, Grych and Fincham (1993) manipulated the content of inter-adult conflict to examine children's cognitive, affective, and coping responses. They compared children's responses to child- versus non-child-related content. They argued that child-related conflict would lead to increases in children's feeling of fear because it would

be perceived as more threatening and as more likely to involve the child in the conflict. They also proposed that child-related conflict would lead to increases in children's feelings of shame and sadness because the conflict would be perceived as their fault. They found that child-related content lead to greater shame and greater fear of becoming involved in the conflict than non-child-related content. In addition, the more the child perceived the conflict as threatening, the greater the child's feelings of distress, shame, and helplessness. The researchers concluded that children's appraisals of conflict are influenced by its content.

The findings from these studies would suggest that marital conflict that is openly hostile and that concerns the topic of child-rearing are forms of marital conflict that are particularly harmful to children's adjustment. Each of these aspects of conflict will be examined in the current study along with general marital distress. In addition to examining these three aspects of marital conflict, the dissertation will examine the mechanisms though which each of the aspects influences children's functioning. The review of literature will now turn to mechanisms that have been proposed to mediate the relationship between marital conflict and child adjustment.

Mediating Mechanisms

Rutter (1994) argues that although marital conflict is indeed a risk indicator for child emotional and behavioral problems, it, by itself, does not represent a risk mechanism. He claims that researchers need to focus their attention on the risk processes that are associated with marital conflict. In their review article, Buehler, Krishnakumar, Anthony, Tittsworth, and Stone (1994) identify three primary mechanisms that have been proposed to mediate the effects of hostile interparental conflict on child adjustment: parental depression, children's perceptions and appraisals of marital conflict, and parent-child interaction. The focus of this review will be on parent-child interactions as mediating mechanisms.

Erel and Burman (1995) note that it is widely assumed that the marital subsystem affects family life through a critical linkage with the parent-child relationship. Family researchers propose that marital disharmony may lead to child adjustment problems through its associations with the quality of the parent-child relationship. Belsky (1984) describes the marital relationship as a direct source of support for parenting and argues that marital discord may undermine effective parenting techniques. Erel and Burman (1995) review the two major theoretical perspectives that relate marital and parent-child relationships. The Spillover Model hypothesizes a positive relationship between marital quality and quality of the parent-child relationship. The model suggests that parents who have satisfying and supportive marital relations will be able to respond appropriately and sensitively to the needs of their children. This model also suggests that marriages characterized by conflict may lead parents to be irritable and emotionally unavailable to their children, and, as a result, less attentive and sensitive to their needs. This theoretical perspective implies that positive parent-child outcomes are not easily achieved when marital conflict is present.

The competing theoretical perspective, according to Erel and Burman (1995), is the Compensatory Model, which hypothesizes a negative relationship between marital quality and quality of the parent-child relationship. In general, the model suggests that individuals seek out opposite experiences or satisfactions in one system to make up or compensate for deficiencies in another system. The model suggests that a stressful or conflictual marriage may increase the parents' attention to the child, as a possible compensation for the warmth and supportiveness lacking in the marital relationship. This theoretical perspective implies that positive parent-child relations can be achieved in the presence of marital conflict.

After reviewing these theoretical perspectives, Erel and Burman (1995) conducted a detailed meta-analysis of sixty-eight studies to examine the direction and magnitude of the relationship between marital quality and parent-child relationship quality. The results of their analysis yielded a composite weighted mean effect size of 0.46, with a 95%

confidence interval of 0.44 to 0.48, indicating an overall significant and positive relationship between marital and parent-child relationship quality. The significant and positive effect size of moderate magnitude between marital and parent-child relationship quality gives support for the Spillover hypothesis, suggesting that a conflictual marital relationship is associated with poorer parent-child relationship quality.

Patterson, DeBaryshe, and Ramsey (1989) suggest that stressful family circumstances have their greatest impact on children and adolescents through the disruption of effect child-rearing practices. More specfically, Grych and Fincham (1990) note that hypotheses proposing indirect effects of marital conflict on children's adjustment focus on changes in the character of parent-child interaction and parental discipline practices. The hostility and aggression expressed during marital conflict may be reproduced in the parent-child relationship, marital conflict may contribute to within- and between-parent inconsistency in discipline, or parents may become withdrawn and less sensitive to their children's needs. Fincham, Grych, and Osborne (1994) propose that three aspects of parent-child relations are important potential mediators of the marital conflict-child adjustment association: parent-child hostility, discipline practices, and the affective quality of the parent-child relationship. Each of these parental behaviors will be explored as potential mediators of the influence of marital conflict on child adjustment.

Negative parental affect

The Spillover hypothesis (Engfer, 1988) argues for the spillover of negative affect from the marital relationship to the parent-child relationship. Parents who frequently express hostility toward each other are more likely to also act negatively toward their children. Fincham, Grych, and Osborne (1994) note that the association between inter-spousal and parent-child aggression is well documented. When spouses are aggressive with each other, there is an increased probability that aggression also will be directed at the

children. Fincham et al. (1994) propose two explanations for this association. Their first explanation focuses on the individual characteristics of the parents and suggests that a tendency to become aggressive when arguing with a spouse may also contribute to aggression toward children. Their second explanation proposes that if children intervene in aggressive conflicts, they may become the victims of aggression themselves.

The same arguments could be made regarding parental negative affect as parental aggression toward children. Parents who tend to engage in conflictual arguments with their spouse may also be more likely to engage in negative affective interaction with their child. Or, if children attempt to intervene in their parents' conflict, they may become the target of parental negative and hostile behavior. Cummings and Davies (1994) suggest that the emotional climate in the home is contagious: negative affect moves across the spousal boundary into the parent-child subsystem. Similarly, Easterbrooks and Emde (1988) assert that negative affect between spouses may become shared within the larger family system with parents showing more negativity toward their children. Conger and Elder (1994) propose that marital conflict affects adolescent adjustment by disrupting parents' child-rearing skills, particularly the spill over from marital conflict to hostile interactions and harsh discipline by parents to children and adolescents. They expect that marital difficulties increase parents' irritability and harshness with their children.

A few studies have found support for a relationship between marital conflict and parents' negativity toward their children. Jenkins and Smith (1990) found that negative parent-child relationships were more common in families where the marriage was distressed. Using coded videotaped interactions of each parent with their child, Kerig, Cowan, and Cowan (1993) found that parents lower in marital satisfaction were more likely to respond negatively to their children's assertions. Similarly, Kerig (1995) found that children from families with the highest marital conflict were more likely to perceive negative affect coming from their parents and were more likely to describe their

relationships with their fathers as negative than were children from families with lower marital conflict. There was a similar trend for children's reports of the mother-child relationship. Finally, Simons, Whitbeck, Melby, and Wu (1994) found that marital hostility and conflict mediated the influence of economic pressure on harsh, explosive parenting. Economic pressure fostered hostility between the spouses that then appeared to "spill over" in to explosive disciplinary practices.

Fincham, Grych, and Osborne (1994) note that, while much research on this topic has documented the association between marital discord and child problems, fewer studies actually have tested hypotheses linking marital conflict to child adjustment. At least three studies have investigated parents' negative affect toward children as a possible mediating mechanism. Jouriles, Barling, and O'Leary (1987) found support for parent-to-child negativity mediating the effect of marital conflict on child adjustment problems. The researchers reported that the more often children witnessed inter-spousal aggression, the more likely the children were victims of parental aggression. Parent-to-child aggression was significantly associated with children's attention problems, anxiety-withdrawal, and conduct problems, but the children's witnessing of interparental aggression was not significantly related to the child behavior problems.

Conger, Ge, Elder, Lorenz, and Simons (1994) found mixed support for negative parental affect mediating the effect of marital conflict on adolescent adjustment. Marital conflict increased fathers' parental hostility toward their adolescent children, but this relationship was not significant for mothers. Paternal and maternal hostility directed toward the adolescents predicted internalizing and externalizing symptoms for both boys and girls. Negative affect, therefore, served as a mediator only for fathers. Gottman and Katz (1989) investigated how marital distress may affect children's peer relations and physical health. They found some evidence suggesting that maritally distressed couples tend to engage in a parenting style that is cold, unresponsive, angry, and low in setting

structure and limits, and that this parental interaction style, in turn, is related to more negative peer interactions and worse physical health for children.

Disrupted parental discipline

Emery (1982) notes that a mechanism by which marital conflict may affect children is through an alteration in parental discipline practices. The Disrupted Discipline Hypothesis argues that conflict in the marital relationship adversely affects the quality and consistency of parenting, which in turn contributes to poorer adjustment in children. Parents experiencing marital distress may be more likely to give in to a child's coercive commands, or they may be preoccupied with their own problems and become lax in their child management behavior. Marital conflict may also cause parents to use opposing discipline strategies with their children. Fincham, Grych, and Osborne (1994) state that most research examining marital conflict and parenting has concentrated on parental discipline practices.

At least three studies have found some support for a relationship between marital conflict and disrupted or altered discipline techniques. In a laboratory situation, Jouriles, Pfiffner, and O'Leary (1988) found evidence to suggest that mothers in discordant marriages are less likely to punish girls, but not boys. Also using a laboratory situation, Jouriles and Farris (1992) found that conflictual marital interaction was associated with fathers' use of vague and confusing commands with their sons during subsequent interaction. Dadds, Sheffield, and Holbeck (1990) examined the relationship between children's perception of marital discord and the children's evaluations of various discipline techniques. The results of their study showed that children from high marital discord families indicated that parents would and should use more coercive parenting behaviors than did children from low marital discord families. The effect was also stronger for boys than girls. Similarly, Holden and Ritchie (1991) hypothesized that the quality of parenting

in homes of extremely discordant couples would differ from the parenting of a matched comparison sample. Mothers from homes with extreme marital conflict perceived child-rearing to be much more stressful than the comparison mothers. The only difference between the two groups in reported parenting practices was inconsistency. Mothers from extremely discordant homes reported more often than control mothers they would use different discipline techniques than their husbands, and that they would alter their child-rearing behaviors when their husbands were present.

At least three studies have tested the mediating influence of parental discipline strategies on the relationship between marital conflict and child adjustment. Caspi and Elder (1988) found that marital conflict influenced child conduct problems indirectly through its effect on non-optimal parenting practices, specifically the discipline strategies used by the parents. Forehand, Wierson, McCombs, Brody, and Fauber (1989) examined how interparental conflict might lead to externalizing and internalizing problems of adolescents indirectly through its impact on mothers' disrupted parenting, indirectly through children's appraisals of the conflict, or have a direct influence on adjustment problems. For adolescents from intact families, their results indicated a significant indirect effect of marital conflict only through adolescents' perceptions of the conflict on externalizing problems and no significant direct effect. For internalizing problems, marital conflict had a significant direct effect, and there were no significant indirect effects.

Fauber, Forehand, Thomas, and Wierson (1990) tested a mediational model of the relation of interparental conflict on adolescent adjustment through its influence on three aspects of parental behavior. First, they proposed that marital conflict reduces the consistency and effectiveness of parental discipline strategies, particularly child monitoring. Second, they argued that marital conflict can lead to parental withdrawal or rejection of the child, and third, the researchers hypothesized that marital conflict can result in an increase in the use of psychological control as a way of maintaining a strong emotional alliance with

the child. They tested their proposed mediating model against a model that added direct paths from interparental conflict to child adjustment problems. The results for adolescents from intact families failed to find evidence for a mediating effect of parental behavior. Marital conflict did not significantly predict any of the three measures of parental behavior. The results did show a significant direct effect from marital conflict to externalizing problems. Thus, only the findings from Caspi and Elder (1988) were consistent with an "altered discipline" hypothesis about the way marital conflict affects children's adjustment.

Positive parental affect

Easterbrooks and Emde (1988) note that marriages that lack positive exchanges fail to provide important emotional support needed to be a sensitive parent. Similarly, Fincham, Grych, and Osborne (1994) assert that frequent parental conflict may be emotionally draining to parents and thus reduce their ability to respond appropriately to their children's needs. Parents may withdraw from their children when they are dissatisfied about their marriages. Although a positive relationship is expected between marital quality and quality of the parent-child relationship, findings from studies that have examined this association have provided mixed support. Emery and O'Leary (1982) proposed that children whose parents have marital problems may experience a "loss of love" and, as a result, the quality of the marital relationship may also disrupt the quality of the children's relationships with their parents. Using a clinical sample and employing correlational analyses, there were no significant relationships between marital discord and children's feelings of acceptance. Meyer (1988) proposed that marital quality would affect the quality of the mother-child relationship directly and also indirectly through the mediation of mother's parenting efficacy and her perceived difficultness of the child. After controlling for mothers' parenting efficacy and her perceived child difficultness, both self-reported marital satisfaction and an observational measure of the married couples' interaction had moderate

direct effects on observed quality of mother-child interaction. In addition, neither mothers' parenting efficacy nor her perceived level of child difficulty significantly predicted the quality of mother-child interactions.

Other studies have documented a significant relationship between marital conflict and more specific positive parental behaviors. Using home observational measures and a sample of 20 mother-child pairs from maritally distressed families and 20 mother-child pairs from non-distressed families, Bond and McMahon (1984) reported a trend for maritally distressed mothers to demonstrate less praise and less positive physical contact toward their children and more inappropriate commands for compliance from their children than non-distressed mothers. Easterbrooks and Emde (1988) studied the relationship between marital adjustment and positive parental behaviors observed in a laboratory setting, specifically frequency of positive affect and frequency of physical affection and approval directed from the parent to the child. The parent-reported measure of marital adjustment was not significantly related to either measure of parental behavior. But, an observational measure of marital harmony was positively associated with frequency of parents' physical affection and approval and also positively associated with frequency of positive affect between the parents and their child.

Some studies have examined emotional quality of the parent-child relationship for mediating the effect of interparental conflict on child adjustment. Amato (1986) found that the emotional quality of father-child and mother-child relationships mediated the effect of interparental conflict on school-aged girls' self-esteem and that the quality of the father-child relationship mediated the effect of marital conflict on adolescent boys' self-esteem. Black and Pedo-Carroll (1993) found support for quality of the parent-child relationship mediating the effects of interparental conflict on psychological well-being for young adult men and women. Level of emotional security with both fathers and mothers mediated the influence of interparental conflict on offsprings' depressive affect and interpersonal trust.

Other studies have tested more specific positive parental behaviors for mediating the effect of interparental conflict on child adjustment. Burman, John, and Margolin (1987) examined the role of parent-child warmth as a mediator between the marital relation and child adjustment. From correlational analyses, the authors report that marital satisfaction and low levels of marital withdrawal are positively related to both warm father-son and mother-son relationships. Mothers' overt aggression toward fathers was negatively associated with mother-son warmth. The only significant relationship for girls was a positive association between fathers with low marital withdrawal and a warm father-daughter relationship. A warm mother-son relationship was significantly associated with several child adjustment problems, including social competency and externalizing problems. Warm mother-daughter, father-daughter, and father-son relationships were much less consistently associated with child outcomes. Conger and colleagues found support for nurturant-involved parental behavior mediating the influence of marital conflict on adolescent boys' (Conger, Conger, Elder, Lorenz, Simons, and Whitbeck, 1992) and adolescent girls' (Conger, Conger, Elder, Lorenz, Simons and Whitbeck, 1993) adjustment. Marital conflict resulted in lower levels of parental warmth and less consistent discipline and higher levels of parental hostility and harsh discipline for both fathers and mothers. Such parenting, in turn, resulted in increased adjustment problems for both boys and girls.

The findings from the results in this section provide mixed support for parental negative affect and disrupted discipline as mediating mechanisms for the effect of marital conflict on child and adolescent functioning. The evidence for the affective quality of the parent-child relationship and warm/supportive parental behaviors mediating the relationship between interparental conflict and child adjustment is more encouraging. The current study will examine the separate mediational influence of parental negative affect, parental management strategies, and parental positive affect on the relationship between marital

conflict and child adjustment. The final section of this chapter will describe the proposed model for the study.

The Conceptual Model

Based on the review of empirical evidence and guided by theoretical formulations in this area of research, this study proposes that both overt, hostile marital conflict and interparental conflict over child-rearing issues will have adverse effects on adolescent adjustment through three aspects of parental behavior. Hypothesized relationships between the concepts are shown in Figure 1. The first research question draws on earlier studies and asks, "What are the specific aspects of marital disharmony that lead to adolescent adjustment problems?" The study proposes that both overt, hostile marital conflict and interparental conflict over child-rearing will have adverse influences on adolescent adjustment. Adolescents should feel greater threat and fear from marital conflict that is openly hostile than marital conflict that is encapsulated. Similarly, adolescents should feel more responsible for and involved in interparental conflicts that pertain to the topic of child-rearing. Furthermore, it is proposed that both overt, hostile marital conflict and interparental conflict over child-rearing will have negative effects on adolescent functioning independent of the influence of general marital distress. The dashed line from general marital distress to parental behavior in Figure 1 indicates a proposed weak or nonsignificant association between these two variables when overt conflict and conflicts over child-rearing are also in the model.

In addition to these propositions, the proposed model is designed to address research questions regarding the mediating mechanisms between marital conflict and child adjustment that have not been addressed in previous research. One research question concerns how the various aspects of the marital relationship each relate to various parental behaviors that, in turn, are expected to influence adolescent functioning. The conceptual

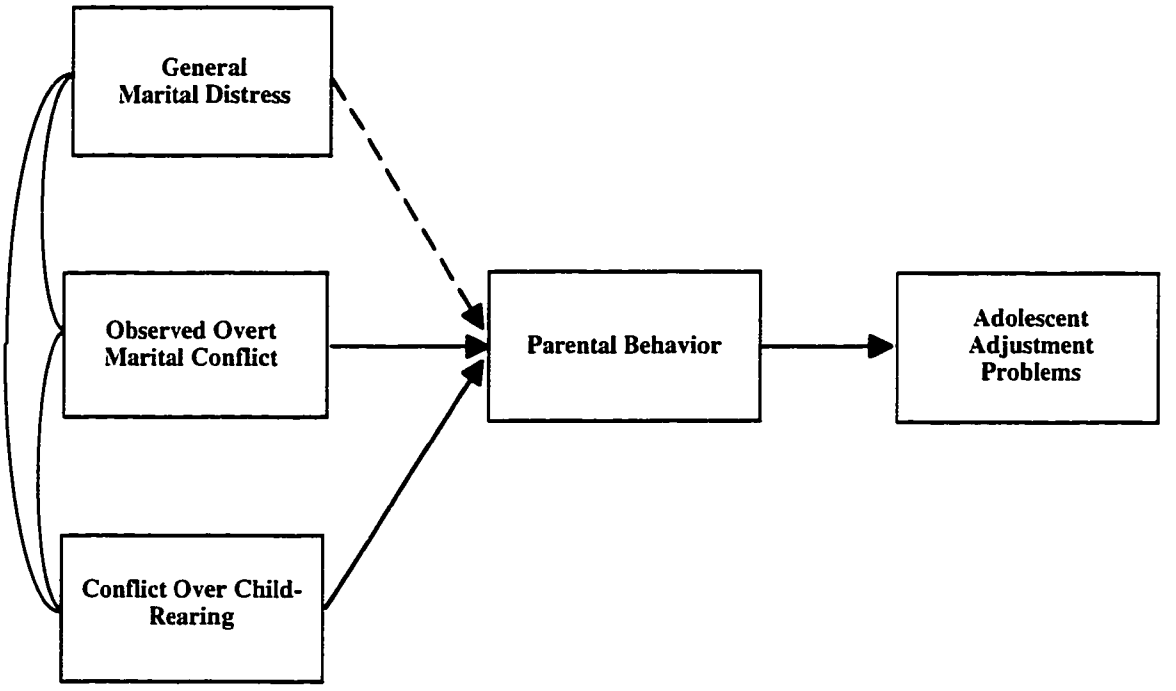


Figure 1. The conceptual model.

model proposes that different aspects of marital discord will influence parental behavior, which will, in turn, influence adolescent adjustment. The mediating influence of three parental behaviors will be examined separately: parental negative affect, parental management strategies, and parental positive affect. More specifically, the conceptual model proposes that overt marital conflict and marital conflict over child rearing will be significantly and positively associated with parental negative affect and significantly and negatively associated with both parental management and parental positive affect, controlling for the influence of general marital distress. The conceptual model then hypothesizes that parental negative affect will be significantly and positively associated with adolescent adjustment problems and that both parental management and parental positive affect will be significantly and negatively associated with adolescent adjustment problems.

An additional research question addressed by this study is whether the same parental mediating mechanisms operate for both fathers' and mothers' parental behavior. Previous studies have tended to aggregate mediating parental behaviors, combining discipline or management strategies with measures of either negative or positive affect. Previous studies that have compared the mediational influence of distinct parental behaviors have tended to rely on mother-only data. The current study will use measures of fathers' and mother's parental behavior separately.

A third research question this study addresses is whether the influence of marital conflict operates the same way on three separate adolescent outcomes. Previous studies frequently have aggregated different adolescent problems together, have examined only conduct problems, have examined only internalization and externalization problems, or have examined only self-esteem or psychological well-being. Few studies have examined several separate dimensions of adolescent functioning. The current study will employ measures of adolescent emotional well-being, externalizing problems, and internalizing problems for outcomes.

The final unique aspect of this study is that it uses longitudinal data to examine the relationships between the concepts. Wave 1 assessments are used to measure the marital constructs, Wave 2 measures are used to evaluate parental behavior, and Wave 3 measures are used as indicators of adolescent adjustment. Employing longitudinal data in this manner helps to impose the proper causal ordering among the constructs.

An alternative to the proposed mediational model is that the various aspects of marital discord may exert a direct effect on child adjustment. Grych and Fincham (1990) note that the most frequently discussed direct effect mechanisms are modeling and stress. The modeling hypothesis proposes that hostile and aggressive exchanges during marital conflicts may provide children with poor models for problems solving, teaching them that hostile and aggressive behaviors are acceptable ways to deal with disagreements. The stress hypothesis argues that marital conflict may affect children by exposing them to a potentially intense stressor. Grych and Fincham (1990) write that experience intense stress from marital conflict may lead children to rely on coping responses that may be maladaptive, such as aggression or withdrawal. Given the possibility that marital conflict may exert a direct effect on adolescent functioning, a fully-recursive model with direct paths from each dimension of marital conflict to the adolescent outcomes will be compared to the proposed mediational model.

CHAPTER THREE:

METHODS

Sample

The sample for the present study is composed of 366 intact families with a seventh grade adolescent male or female. The families are part of a panel study concerned with family stress and life-course trajectories of parents and their adolescent children called the Iowa Youth and Families Project (IYFP). The data for the analyses will be from the first three waves of the Iowa Youth and Families Project. Permission to use this data set was granted by the principal investigators of the project. At the first interview in 1989, the full sample consisted of 451 primarily middle-class families each of which include two parents, a seventh grade adolescent, and a sibling of the seventh grader.

The families were recruited through the cohort of all seventh grade students, male and female, in eight adjacent counties in north-central Iowa who were enrolled in public or private schools during winter and spring, 1989. An additional criterion for inclusion in the study was the presence of a sibling within four years of age of the seventh grader. Slightly less than half of the cohort of seventh graders had families that met these criteria. Seventy-eight percent of the eligible families agreed to participate in the study. Families were interviewed in 1989 for Wave 1 of the study, in 1990 for Wave 2, and in 1991 for Wave 3. Families received $250 annually for their participation, about $10 per hour for each family member's time. The retention rate for each year of data collection was about 95%.

Because of the rural focus of the study, all families lived in towns or small cities (54%), rural areas (12%), or farms (34%). All the families were white, and their annual income ranged from zero to $135,000, with a mean of $29,642 and a median of $33,000. Eleven percent of the families had income below the federal poverty line. Fathers' education ranged from 8 to 20 years, with a mean of 13.5 years of education; for mothers

the range was from 8 to 18 years, with a mean of 13.4 years. Median age for fathers was 39 years and 37 years for mothers. Family size ranged from the four members required for participation up to 13 members, with the average being 4.95 members. The seventh grade adolescents in the study ranged in age from 12.1 years to 14.7 years, with a mean age of 13.2 years. There were 215 seventh grade boys and 236 girls. Siblings ranged in age from 9.4 years to 18 years, with a mean of 13.5 years. The siblings were about evenly split between females (52%) and males (48%).

Procedures

The same data collection procedures were used annually with the families and consisted of the following activities. Each family was visited twice in their home; both visits lasted approximately two hours. During the first visit, each of the four family members completed a set of questionnaires focusing on family economic circumstances, individual characteristics, and the quality of family relationships and interactions. Between the first and second visits, family members completed questionnaires left with them by the first interviewer. During the second visit, which occurred within two weeks of the first, the family was videotaped while engaging in four different structured interaction tasks. The interviewer explained the procedure to the family, had them complete a practice card, then went into another part of the house while the family completed each task. Family members were asked to discuss each question listed on the cards, repeating cards if necessary, until the interviewer returned. A video camera recorded the family's interaction during their discussions. At the end of each task, the interviewer returned, stopped the discussion, and described the next task.

The general interaction task (task 1) involved all four family members and lasted 30 minutes. Family members were given a set of cards containing questions about areas of their family life such as parenting, performance in school, household chores, and important

family events. For all cards, participants were asked to discuss their answers with one another. The problem-solving task (task 2) involved all four family members and lasted 15 minutes. Family members were requested to discuss and try to resolve up to three topics of potential family conflict identified on previously completed questionnaires. If they resolved problem one, they could move on to the second and third problem as time permitted. The marital interaction task (task 4) involved only the married parents and lasted 30 minutes. Spouses were asked to discuss the history and current status of their relationship, areas of agreement and disagreement (e.g., about parenting, finances), and their plans for the future. The analysis for this study will not use information collected from the sibling interaction task (task 3).

The videotaped family interactions were coded by trained observers, who rated several dimensions of family interaction and individual member characteristics using the Iowa Family Interaction Rating scales (Melby et al., 1990). The observers were staff members who specialized in coding one of the four interaction tasks and received two months of training on rating family interactions. Before coding videotapes, observers had to rate precoded interaction tasks independently and achieve at least 90% agreement with the standard. A separate, independent coder was used to rate each task for the same family. For purposes of assessing interobserver reliability, 12% of the tasks at wave 1 and 25% at waves 2 and 3 were randomly selected to be observed independently and rated by a second observer.

Measures

The measures for the marital conflict constructs are based on information from Wave 1 (1989) of the Iowa Youth and Families Project, while the measures for parental behavior are taken from Wave 2, and measures for child adjustment are taken from Wave 3 of the study. The current study was designed to provide a realistic or "complete" picture of

family relationships by incorporating information from multiple sources. Reporting agents were varied where possible, across and within constructs, to minimize biases in estimates of path coefficients (method variance bias) often produced by single sources of information (Bank, Dishion, Skinner, and Patterson, 1990; Lorenz, Conger, Simons, Whitbeck, and Elder, 1991). Information from both parents, the focal seventh grade adolescent, the sibling, and observer ratings of family interactions were used to assess the concepts. A complete description of the study measures is provided in Appendix A and means, standard deviations, and ranges of the study measures are provided in Appendix B.

Marital measures

Several dimensions of the marital relationship were assessed. In addition to measures concerning general satisfaction with the marriage, there were also measures concerning overt hostility between the spouses and measures of interparental conflict specific to the topic of child-rearing issues. It should be noted that the marital measures assessed the marital relationship at the dyadic level. Evaluations of the marriage were combined across reporters. For example, parent self-reported measures of the marriage were combined across fathers and mothers, and observer ratings of the marriage were combined across reporters from different observational tasks. A complete description of the marital measures begins on page 110 in Appendix A. Marital dissatisfaction was assessed by two items completed by the each of the parents. The questions asked each parent 1) how happy are you with your marital relationship, and 2) how satisfied are you with your marriage? Response categories for the first item ranged along a six-point continuum with 0 = extremely unhappy and 5 = extremely happy. Response categories for the second item ranged along a five-point continuum with 1 = completely satisfied and 5 = not at all satisfied. The first item was reverse coded, and the items were standardized and summed. The correlation coefficient for the two items for fathers was .702 and for mothers was

.785. Fathers' and mothers' scores correlated .442. To obtain an overall estimate of marital dissatisfaction, father and mother reports were added together.

A five-item index created by Booth, Johnson, and Edwards (1983) was used to assess marital instability. The items, completed by each parent, concerned behaviors and thoughts about ending the marriage (e.g.: Have you or your wife/husband ever seriously suggested the idea of divorce?). Response categories ranged on a four-point scale with 1 = Never and 4 = Yes, within the last three months. Coefficient alpha for fathers was .816 and for mothers was .847. Fathers' scores correlated .546 with mothers' scores. Father reports and mother reports were summed together.

The degree to which parents perceived negative interactions in their marriages were also measured. Spouse hostility/coercion consisted of 12 items completed by each parent concerning the hostile, coercive behaviors displayed by their spouse during interaction with her/him over the past month. Example items include: How often did your wife/husband...get into an argument with you, shout or yell because she/he was mad at you, argue whenever you disagreed about something? Response categories ranged on a seven-point continuum with 1 = always, 4 = half the time, 7 = never. All the items were reverse coded. Coefficient alpha for fathers was .907 and for mothers was .905. Fathers' and mothers' scores correlated .480, and father and mother reports were summed together.

The measure of interparental conflict over child-rearing consisted of three items. Fathers and mothers each answered the question, How often do you and your spouse disagree about punishing the target child? The target child and the sibling both reported on their father's and mother's behavior, answering, How often does your dad/mom disagree with your mom/dad about how and when to punish you? Response categories for both the parent- and child-reported items ranged on a five-point continuum with 1 = always, 5 = never. Responses to these items were reverse coded. For the third item, fathers and mothers each answered the question, How often do you and your spouse disagree or get

upset about discipline/raising children? Response categories ranged on a five-point continuum with 0 = never, 4 = all the time. Coefficient alpha for the parent-report items was .669, and coefficient alpha for the child-report items was .635. The parent-report items correlated .378 with the child-report items. All the items were standardized and then summed to create a single scale.

The final measure of marital conflict was observer ratings of marital conflict displayed during the videotaped family interactions. During tasks 2 and 4, each of which was coded by an independent observer, observers used five-point scales to rate both fathers and mothers on their degree of hostility, angry coercion, antisocial behavior, and reciprocal negativism toward each other. The ratings of these four behaviors were summed for each spouse across the two tasks. Coefficient alpha for observers' ratings of fathers was .812, and for observers' ratings of mothers was .832. Inter-rater reliabilities were .63 for fathers' behaviors toward mothers and .80 for mothers' behaviors toward fathers during task 2, and .75 for fathers' behaviors toward mothers and .69 for mothers' behaviors toward fathers during task 4. Ratings of fathers correlated .727 with ratings of mothers, and the ratings of the two spouses were added together.

Parental behavior

Parental behavior was assessed by using observer ratings of behaviors displayed by fathers and mothers during the first task of the videotaped family interactions. It should be noted that the task 1 observers assessing parental behavior were completely independent from the task 2 and 4 observers assessing marital conflict. A detailed description of the observed parental behaviors begins on page 113 in Appendix A. Using five-point scales (1 = not at all characteristic, 5 = mainly characteristic), observers rated both fathers' and mothers' degree of harsh discipline, hostility, angry coerciveness, antisocial behavior, and verbal attacks directed toward the target adolescent. The behaviors were summed to create

parental negative affect indices. Initial coefficient alphas were .365 for ratings of fathers' behaviors and was .458 for ratings of mothers' behaviors. Following a series of factor analyses to eliminate poor items, harsh discipline was removed. For the remaining behaviors, coefficient alpha for ratings of fathers' behaviors was .691 and for ratings of mothers' behaviors was .715. Inter-rater reliabilities were .74 for fathers' negative affect behaviors and .70 for mothers' negative affect behaviors. Details of the factor analyses are included in the results section.

Observer ratings of fathers' and mothers' inductive reasoning, child monitoring, consistent discipline, parental influence, and quality time directed toward the target adolescent were used to create measures of parental management. Initial coefficient alphas were .737 for ratings of fathers' behaviors and was .725 for ratings of mothers' behaviors. Following a series of factor analyses to eliminate poor items, inductive reasoning was removed, and for the remaining behaviors, coefficient alpha for ratings of fathers' behaviors was .731 and for ratings of mothers' behaviors was .719. Inter-rater reliabilities were .70 for fathers' management behaviors and .68 for mothers' management behaviors. Details of the factor analyses are included in the results section. Observer ratings of parents' warmth and supportiveness, prosocial behavior, communication, endearing statements, positive reinforcement, and encouraging independence were used to create measures of positive affect from each parent to the target adolescent. Coefficient alpha for ratings of fathers' behaviors was .818 and for ratings of mothers' behaviors was .822. Inter-rater reliabilities were .65 for fathers' positive affect behaviors and .68 for mothers' positive affect behaviors.

Adolescent adjustment

Grych and Fincham (1990) point out that child adjustment is a global term that includes elements such as self-concept, appropriateness of children's behavior, and

emotional well-being. Therefore, three different dimensions of child adjustment were examined in this study: emotional well-being, externalization problems, and internalization problems. In almost every instance, target adolescent self-reports were used to assess child adjustment. The only exception was one sibling-report measure of adolescent antisocial behavior.

Three indices were used to measure emotional well-being. A complete description of the emotional well-being measures begins on page 116 in Appendix A. The first index consisted of seven items taken from Pearlin's measure of mastery (Pearlin, Lieberman, Menaghan, and Mullan, 1981). The target adolescents self-reported on both positively and negatively worded items that assessed their sense of control (e.g.: There is really no way I can solve some of the problems I have; I have little control over the things in my life; I can do just about anything I really set my mind to.) The response categories ranged from 1 = strongly agree to 5 = strongly disagree. Positively worded items were reverse coded so that a high score on the index indicated a high sense of mastery. Coefficient alpha for the index was .785.

The second index was 10 items based on Rosenberg's (1965) measure of self-esteem. The target adolescent self-reported how strongly they felt the items agreed with themselves. Items were worded both positively and negatively, and example items included: I feel that I have a number of good qualities; All in all, I am inclined to feel that I'm a failure; and, On the whole, I am satisfied with myself. Response categories ranged from 1 = strongly agree to 5 = strongly disagree. Items that were positively worded were reverse coded so that a high score on the index reflected high self-esteem. Coefficient alpha for the index was .883.

The final index that was used to measure adolescent emotional well-being was a positive affect index. The index consisted of six adolescent self-reported items that assessed the adolescents' positive view on life during the past month. Sample items

included, "Have you generally enjoyed the things you do?", and "Has living been a wonderful adventure for you?" All of the items were positively worded, and response categories ranged from 1 = all of the time to 6 = none of the time. All of the items were reverse-coded and then summed to form the index (coefficient alpha = .899). As a final step, each of the three measures of adolescent emotional well-being were standardized and then summed together to form a composite measure.

Four measures assessed adolescent externalization problems. A complete description of the externalizing measures begins on page 117 in Appendix A. The first measure, antisocial behavior, was based on adolescent self-report of seven items selected from the Buss and Durkee (1957) hostility scale that most reflect overt aggression (e.g., "If someone hits me first, I let him/her have it"; "When someone makes a rule I don't like, I want to break it".). Responses ranged from 1 = not at all like me to 5 = exactly like me. The seven items were summed to form an index of overt aggression. Coefficient alpha for the index was .853.

The sibling's responses to four items concerning the target adolescent's behavior were used as the second measure of target adolescents' externalization problems. On a five-point scale ranging from 1 = strongly agree to 5 = strongly disagree, the sibling indicated whether the target adolescent (a) always gets into trouble, (b) sometimes breaks the law, (c) gets into a lot of fights, and (d) people think he/she's a bad kid. The items were reverse coded and then summed to form an index. Coefficient alpha for the sibling-report index was .792.

The third measure of adolescent externalization problems consisted of a 23-item self-reported checklist of delinquent behaviors. The items asked the target adolescent how often during the past 12 months he/she engaged in a variety of deviant activities, including things such as taken something worth more $25 or more that didn't belong to them, taken a car or motor vehicle without the owner's permission just to drive around, or thrown objects such

as rocks or bottles at people to hurt or scare them. Response categories ranged from 1 = never to 6 = about 3 or more times per week. The items were dichotomized and recoded so that 0 = never and 1 = once or more. Then the items were summed to form an index. Coefficient alpha for the checklist was .757.

The final measure of adolescent externalization problems was a 13-item target adolescent self-reported substance use checklist. The items asked the adolescent how often during the past 12 months they used drugs or alcohol. Example substances included on the checklist were: cigarettes, tobacco, beer, wine, hard liquor, marijuana, cocaine, and nonprescription drugs to get "high." Response categories for the items ranged from 1 = never to 6 = about 3 or more times per week. The items were dichotomized and recoded so that 0 = never and 1 = once or more. The items were summed to form an index with coefficient alpha = .788. As a final step, the four measures of adolescent externalization problems were standardized and then added together to form a composite measure.

Two measures were used to assess adolescent internalization problems. The complete description of the items used for these measures begins on page 119 in Appendix A. The first measure consisted of 10 target adolescent self-reported items from the anxiety subscale of the SCL-90-R (Derogatis, 1983). The items asked the adolescent how often during the past week he/she was distressed or bothered by several problems or complaints (e.g.: nervousness or shakiness inside, feeling fearful, the feeling that something bad is going to happen to you). Response categories ranged from 1 = not at all to 5 = extremely. The items were added together to form an index of anxiety symptoms (coefficient alpha = .853).

The second measure of adolescent internalization problems was a 12-item target adolescent self-reported index of depressive symptoms taken from the depression subscale of the SCL-90-R (Derogatis, 1983). The items asked the adolescent how much they were distressed or bothered by several complaints, including things like feeling low in energy or

slowed down, crying easily, worrying too much about things, and feeling hopeless about the future. Response categories ranged from 1 = not at all to 5 = extremely. The items were added together to form a index of depressive symptoms (coefficient alpha = .898). As a final step, the two measures of internalization problems were standardized and then summed to create a composite measure of internalization problems.

CHAPTER FOUR:

RESULTS

Factor Analysis of Marital Conflict Measures

Although the measures to be included in the analysis were selected in an a priori fashion, there was a need to confirm if the a priori decisions were tenable. The first step in the analysis consisted of running a series of exploratory factor analyses on the marital measures using the Statistical Package for the Social Sciences (SPSS) to determine how many different marital conflict factors there were. The Principal Components extraction procedure was used, and both orthogonal and oblique rotations were estimated. Rotated factor loadings for the Wave 1 marital measures using orthogonal rotation are presented first, and then pattern matrix using oblique rotation is presented. The results of the exploratory factor analyses for the Wave 2 and Wave 3 marital measures are presented in Tables C1 through C5 in Appendix C.

Three factors were extracted from the Wave 1 marital conflict measures using orthogonal rotation (see Table 1). Marital Dissatisfaction as reported by fathers and mothers, Marital Instability as reported by fathers and mothers, and Spouse Hostility/Coercion as reported by both parents loaded most strongly on the "Marital Distress" factor, with rotated factor loadings ranging from .616 to .792. None of these measures loaded on either of the other factors with rotated loadings of .400 or stronger. Observed Marital Conflict from task 2 and Observed Marital Conflict from task 4 loaded most strongly on the "Observed Conflict" factor, with rotated factor loadings of .823 and .759. Neither of the observed conflict measures loaded highly on either of the other factors. Finally, the Conflict over Child-Rearing-parent report and the Conflict over Child-Rearing-child report measures loaded strongly on the "Conflict over Child-Rearing" factor

Table 1. Rotated factor loadings for Wave 1 marital measures using principal components extraction and varimax rotation.

Marital Measure	Marital Distress	Observed Conflict	Conflict over Child Rearing
Dissatisfaction-Father report	.697	.001	.263
Dissatisfaction-Mother report	.736	.268	.119
Instability-Father report	.758	.019	.136
Instability-Mother report	.792	.170	.000
Hostility/coercion-Father report	.616	.138	.378
Hostility/coercion-Mother report	.641	.382	.212
Observed conflict-Task 2	.060	.823	.115
Observed conflict-Task 4	.225	.759	.090
Conflict over Child Rearing- Parent Rep.	.294	.169	.723
Conflict over Child Rearing- Child Rep.	.093	.070	.837

with rotated factor loadings of .723 and .837. Again, neither of these measures loaded strongly on the other two factors.

The exploratory factor analysis of the marital conflict measures using oblique rotation produced results similar to those with orthogonal rotation (see Table 2). Again, three factors were extracted. Marital Dissatisfaction, Marital Instability, and Spouse Hostility/Coercion as reported by both fathers and mothers loaded most strongly on the "Marital Distress" factor, with loadings ranging from .578 to .839. None of these measures loaded strongly on the other two factors. Observed Conflict from task 2 and Observed Conflict from task 4 loaded strongly on the "Observed Conflict" factor, with loadings of .845 and .754, respectively. Neither of these measures loaded strongly on the other two factors. Conflict over Child-Rearing-parent report and Conflict over Child-Rearing-child-report loaded strongly on the "Conflict over Child-Rearing" factor, with loadings of .703 and .871. Table 3 shows the correlations between the extracted marital factors when oblique rotation was used. All of the factors correlate moderately with one another. The "Marital Distress" factor correlated .325 with the "Observed Conflict" factor and .379 with the "Conflict over Child-Rearing" factor. The "Observed Conflict" factor correlated .215 with the "Conflict over Child-Rearing factor. The analyses for the Wave 2 and Wave 3 marital measures produced very similar findings (see Tables C1 through C5 in Appendix C). For both waves, using both orthogonal and oblique rotations, three factors were extracted. The general patterns of factor loadings were also similar to those obtained for the Wave 1 marital measures. Consistent with the conceptual model in Figure 1, these findings provide replicated support across three waves of data indicating that there are three different dimensions of marital conflict being assessed by the marital measures: general marital distress, observed marital conflict, and conflict over child-rearing.

Table 2. Pattern matrix for Wave 1 marital measures using principal components extraction and oblimin rotation.

Marital Measure	Marital Distress	Observed Conflict	Conflict over Child Rearing
Dissatisfaction-Father report	.709	-.128	.148
Dissatisfaction-Mother report	.739	.157	-.032
Instability-Father report	.799	-.108	-.001
Instability-Mother report	.839	.053	-.163
Hostility/coercion-Father report	.578	.021	.276
Hostility/coercion-Mother report	.600	.285	.076
Observed conflict-Task 2	-.083	.845	.050
Observed conflict-Task 4	.110	.754	-.002
Conflict over Child Rearing- Parent Rep.	.153	.080	.703
Conflict over Child Rearing- Child Rep.	-.074	.000	.871

Table 3. Factor correlation matrix for Wave 1 marital measures using oblique rotation.

	Marital Distress	Observed Conflict	Child-Rearing
Marital Distress	1.000		
Observed Conflict	.325	1.000	
Child-Rearing	.379	.215	1.000

Factor Analysis of Parental Behavior Measures

The second step in the analysis was to run a series of exploratory factor analyses on the parental behavior measures using SPSS to determine whether the expected parenting factors would be obtained. As with the marital measures, the Principal Components extraction procedure was used, and both orthogonal and oblique rotations were estimated. For the Wave 2 parental behavior measures, rotated factor loadings using orthogonal rotation and the pattern matrix using oblique rotation are presented first for fathers' behavior and then for mothers' behavior. The results of the exploratory factor analyses for the Wave 1 and Wave 3 parental behavior measures are presented in Tables C6 through C14 in Appendix C.

Three factors were extracted from the Wave 2 father parental behavior measures using orthogonal rotation (see Table 4). Hostility, Angry Coercion, Antisocial, and Verbal Attack loaded strongly (with loadings greater than .400) on the "Negative Affect" factor, with loadings ranging from .450 to .860. Harsh Discipline loaded most strongly on this factor, with a loading of .337. Child Monitoring, Consistent Discipline, Parental Influence, and Quality Time loaded strongly on the "Management " factor, with loadings ranging from .588 to .777. Inductive Reasoning loaded most strongly on this factor with a loading of .341. Warmth/Supportive, Prosocial, Communication, Endearment, Positive Reinforcement, and Encourages Independence loaded strongly on the "Positive Affect" factor, with loadings ranging from .547 to .736.

When oblique rotation was used for fathers' parental behavior measures, the findings were quite similar (see Table 5). Again, three factors with the same general patterns of loadings were obtained. Harsh Discipline loaded most strongly on the "Negative Affect" factor, with a loading of .295. In this instance, Inductive Reasoning loaded strongest on the "Positive Affect" factor, with a loading of .305.

Table 4. Rotated factor loadings for Wave 2 fathers' parenting measures using principal components extraction and varimax rotation.

	Negative Affect	Management	Positive Affect
Harsh Discipline	.337	-.024	-.002
Hostility	.860	-.104	-.221
Angry Coercion	.778	-.000	-.112
Antisocial	.788	-.207	-.250
Verbal Attack	.450	-.065	.044
Inductive Reasoning	-.138	.341	.303
Child Monitoring	-.005	.777	.237
Consistent Discipline	-.199	.588	.054
Parental Influence	.189	.775	.202
Quality Time	-.263	.720	.094
Warmth/Supportive	-.270	.277	.714
Prosocial	-.184	.303	.576
Communication	-.308	.162	.556
Endearment	.149	-.062	.637
Positive Reinforce.	-.251	.257	.547
Encourages Indepen.	-.016	.088	.736

Table 5. Pattern matrix for Wave 2 fathers' parenting measures using principal components extraction and oblimin rotation.

	Negative Affect	Management	Positive Affect
Harsh Discipline	.295	-.035	.052
Hostility	.869	-.023	-.130
Angry Coercion	.802	-.107	-.045
Antisocial	.779	.092	-.147
Verbal Attack	.458	.025	.101
Inductive Reasoning	-.079	-.264	.305
Child Monitoring	.110	-.800	.092
Consistent Discipline	-.122	-.604	-.079
Parental Influence	.311	-.825	.074
Quality Time	-.169	-.732	-.070
Warmth/Supportive	-.218	-.150	.669
Prosocial	-.091	-178	.501
Communication	-.328	-.297	.467
Endearment	.166	.155	.696
Positive Reinforce.	-.180	-.306	.460
Encourages Indepen.	.018	.028	.754

The results of the exploratory factor analyses for mothers' parental behaviors are shown in Tables 6 and 7. Three factors were extracted from the Wave 2 mothers measures using orthogonal rotation (see Table 6). Hostility, Angry Coercion, Antisocial, and Verbal Attack loaded strongly on the "Negative Affect" factor, with loadings ranging from .492 to .808. Harsh Discipline loaded most strongly on the "Negative Affect" factor, with a low loading of .151. Child Monitoring, Consistent Discipline, Parental Influence, and Quality Time loaded strongly on the "Management" factor, with loadings ranging from .546 to .786. Warmth/Supportiveness, Prosocial, Communication, Endearment, Positive Reinforcement, and Encourages Independence loaded highly on the "Positive Affect" factor with loadings ranging from .589 to .765. Inductive Reasoning loaded most strongly on the positive affect factor, but with a moderate loading of .307. Three factors with the same general patterns of loadings were obtained when oblique rotation was used for mothers' parental behavior measures (see Table 7). Again, Harsh Discipline and Inductive Reasoning did not load strongly on any of the factors. Harsh Discipline had a loading of .325 on the "Negative Affect" factor whereas Inductive Reasoning had a loading of .308 on the "Positive Affect" factor.

Table 8 shows the correlations between the extracted factors when oblique rotation was employed. Correlations between fathers' parental behavior factors are shown in Panel A, while the correlations between mothers' parental behavior factors are shown in Panel B. "Negative Affect" correlated .276 for fathers and -.311 for mothers with "Management" and -.179 for fathers and -.208 for mothers with "Positive Affect." "Management" correlated -.354 for fathers and .251 for mothers with "Positive Affect." With a few exceptions for the Wave 3 measures, the analyses for the Wave 1 and Wave 3 parental behavior measures produced very similar findings as those reported here for the Wave 2 measures (see Tables C6 through C14 in Appendix C). For both fathers and mothers, using both orthogonal and oblique rotations, three factors were extracted, with the

Table 6. Rotated factor loadings for Wave 2 mothers' parenting measures using principal components extraction and varimax rotation.

	Negative Affect	Management	Positive Affect
Harsh Discipline	.151	-.084	.050
Hostility	.808	-.022	-.371
Angry Coercion	.753	-.067	-.269
Antisocial	.791	-.095	-.344
Verbal Attack	.492	-.153	.069
Inductive Reasoning	-.082	.244	.307
Child Monitoring	-.015	.768	.178
Consistent Discipline	-.303	.546	.046
Parental Influence	-.018	.786	.078
Quality Time	-.198	.673	.216
Warmth/Supportive	-.226	.169	.765
Prosocial	-.203	.206	.684
Communication	-.281	.307	.688
Endearment	.142	-.189	.621
Positive Reinforce.	-.143	.353	.659
Encourages Indepen.	-.036	.249	.589

Table 7. Pattern matrix for Wave 2 mothers' parenting measures using principal components extraction and oblimin rotation.

	Negative Affect	Management	Positive Affect
Harsh Discipline	.325	-.020	.130
Hostility	.829	.121	-.271
Angry Coercion	.769	.058	-.167
Antisocial	.802	.039	-.235
Verbal Attack	.496	-.098	.158
Inductive Reasoning	-.001	.229	.308
Child Monitoring	.111	.799	.064
Consistent Discipline	-.242	.531	-.075
Parental Influence	.106	.826	-.040
Quality Time	-.094	.669	.093
Warmth/Supportive	-.178	.085	.728
Prosocial	-.363	.105	.617
Communication	-.218	.230	.622
Endearment	.146	-.231	.684
Positive Reinforce.	-.067	.300	.603
Encourages Indepen.	.025	.211	.561

Table 8. Factor correlation matrices for Wave 2 parenting measures using oblique rotations.

Panel A: Wave 2 fathers' parenting

	Negative Affect	Management	Positive Affect
Negative Affect	1.000		
Management	.276	1.000	
Positive Affect	-.179	-.354	1.000

Panel B: Wave 2 mothers' parenting

	Negative Affect	Management	Positive Affect
Negative Affect	1.000		
Management	-.311	1.000	
Positive Affect	-.208	.251	1.000

same general pattern of factor loadings. Given that Harsh Discipline failed to have consistently high loadings on the "Negative Affect" factor, it was excluded from further analyses. Similarly, Inductive Reasoning did not consistently load strongly on any of the extracted factors, so it too was excluded from further analyses.

Simple summed indices based on the results from the factor analyses were used to create the marital and parental behavior measures. The correlation coefficients between the study measures are given in Table 9. Coefficients above the diagonal are for boys, and coefficients below the diagonal are for girls. The study measures were available for 171 boys and 195 girls. It should be noted that caution needs to be taken when interpreting the correlations between the marital measures and the other study measures because there was more multicollinearity among the marital measures than what was suggested by the factor analyses. For example, for parents of adolescent boys, Marital Distress correlated .547 with Conflict over Child-Rearing.

Among boys, Conflict over Child-Rearing was significantly correlated with emotional well-being and externalization problems, while none of the other marital measures had significant correlations with the outcomes measures. Among girls, Conflict over Child-Rearing was significantly correlated with each of the outcomes; Marital Distress was significantly correlated with only emotional well-being, and Observed Conflict was significantly correlated with externalizing and internalizing problems. For parents of boys and girls, in all but three circumstances, every measure of marital conflict was significantly correlated with every dimension of fathers' and mothers' parenting. Except for fathers' Negative Affect, among boys every dimension of fathers' and mothers' parenting was significantly correlated to externalizing problems. In addition, fathers' Management and mothers' Negative Affect were significantly correlated with boys' internalizing problems, and mothers' Positive Affect was significantly correlated with boys' emotional well-being. Among adolescent girls, every dimension of fathers' and mother's parenting was

Table 9. Correlation coefficients for study measures (boys above diagonal (N=171), girls below diagonal (N=195)).

	MD	OB	CCR	FNA	FM	FPA	MNA	MM	MPA	EWB	EX P	IN P
Marital Distress (MD)	1.000	.401*	.547*	.292*	-.347*	-.187*	.214*	-.257*	-.176*	-.042	.114	.052
Observed Conflict (OB)	.438*	1.000	.190*	.418*	-.340*	-.349*	.263*	-.340*	-.212*	.030	.008	.050
Conflict over Child-Rear. (CCR)	.497*	.378*	1.000	.228*	-.294*	-.119	.170*	-.325*	-.163*	-.144*	.285*	.075
Father Neg. Affect (FNA)	.207*	.342*	.209*	1.000	-.266*	-.504*	.403*	-.400*	-.334*	-.065	.024	.083
Father Management (FM)	-.111	-.310*	-.144*	-.334*	1.000	.464*	-.271*	.774*	.318*	.116	-.229*	-.125*
Father Pos. Affect (FPA)	-.134*	-.342*	-.088	-.532*	.584*	1.000	-.360*	.384*	.432*	.120	-.137*	.002
Mother Neg. Affect (MNA)	.120*	.293*	.178*	.607*	-.358*	-.464*	1.000	-.310*	-.509*	-.068	.265*	.159*
Mother Management (MM)	-.156*	-.223*	-.183*	-.353*	.812*	.450*	-.336*	1.000	.456*	.079	-.125*	-.084
Mother Pos. Affect (MPA)	-.175*	-.260*	-.135*	-.487*	.450*	.644*	-.570*	.518*	1.000	.180*	-.165*	-.049
Emotional Well-Being (EWB)	-.125*	-.058	-.205*	-.028	-.002	.058	-.047	-.043	.152*	1.000	-.216*	-.326*
Externalizing Problems (EX P)	.076	.252*	.119*	.265*	-.218*	-.218*	.233*	-.194*	-.285*	-.119*	1.000	.269*
Internalizing Problems (INP)	-.042	.124*	.175*	.080	-.067	-.085	.065	-.017	-.116*	-.518*	.416*	1.000

* $p < .05$ for one-tailed test

significantly correlated with externalizing problems. In addition, mothers' Positive Affect was significantly correlated with both emotional well-being and internalizing problems.

Adolescent Outcomes Regressed on Marital Discord Factors

The third step in the analysis was to run multiple regression equations using SPSS for each adolescent adjustment outcome separately for the purpose of investigating significant moderator effects of adolescent gender. The first model, the main effects model, regressed the outcome variable on the three marital discord measures and adolescent gender. The second model consisted of the four main effects plus three interaction terms, one for each of the marital discord measures with adolescent gender. A significant interaction term in the second model indicated that the effects of marital conflict on the outcome measure differed according to adolescent gender. It also indicated that the analysis would need to be run separately by gender of the adolescent. The standardized regression coefficients for adolescent emotional well-being are presented in Table 10, while those for externalizing problems and internalizing problems are presented in the following two tables.

For adolescent emotional well-being, the main effects model indicated a significant effect for Conflict over Child-Rearing (see Table 10). The more interparental conflict specific to the topic of disciplining the children, the poorer the emotional well-being of the target adolescent. After adding the interaction terms, model 2 also resulted in a significant effect for Conflict over Child-Rearing. None of the interaction terms were significant, implying that the marital discord variables operate the same way on both boys' and girls' emotional well-being. The main effects model explained about four percent of the variance in adolescent emotional well-being.

The main effects model for adolescent externalizing problems (Table 11) resulted in significant effects for Observed Conflict, Conflict over Child-Rearing, and gender. After adding the interaction terms, model 2 showed significant interaction terms for Observed

Table 10. Standardized regression coefficients for emotional well-being regressed on marital variables (N=366).

Marital Variables	Combined Sample		Gender Subsamples	
	Model 1	Model 2	Boys	Girls
Main Effects				
MD	-.01	-.04	[a]	
OB	.04	.04		
CCR	-.18*	-.21*		
Gender	.08	.02		
Gender Interactions				
MD x G	----	.05		
OB x G	----	.02		
CCR x G	----	.06		
R-Square	.038	.042		

* $p < .05$

[a]These effects were not estimated separately because of the absence of significant gender interactions.

Table 11. Standardized regression coefficients for externalization problems regressed on marital variables (N=366).

Marital Variables	Combined Sample		Gender Subsamples	
	Model 1	Model 2	Boys	Girls
Main Effects				
MD	-.05	-.06	-.05	-.06
OB	.10*	.24*	-.03	.26*
CCR	.19*	.05	.32*	.05
Gender	.26*	.52*		
Gender Interactions				
MD x G	----	.01		
OB x G	----	-.55*		
CCR x G	----	.32*		
R-Square	.115	.141	.084	.067

* $p < .05$

Conflict with gender and for Conflict over Child-Rearing with gender. Model 2 also resulted in significant main effects for Observed Conflict and gender. The significant interaction terms in the second model indicated that the effects of Observed Conflict and Conflict over Child-Rearing have differing impacts upon externalization problems depending on adolescent gender. Given the findings in model 2, the main effects model (without gender) was run separately for boys and girls. The results from the gender subsamples showed that Conflict over Child-Rearing had a significant effect for boys, while Observed Conflict had a significant effect for girls. The more conflict over child-rearing issues, the more externalization problems for boys. For girls, the more observed interparental conflict, the more externalizing problems. The marital conflict measures explained eight percent of the variance in externalizing problems for boys and almost seven percent of the variance in girls' externalizing problems.

For adolescent internalization problems, the main effects model indicated a significant effect for each of the four main effects (Table 12). The addition of the gender interaction terms in model 2 resulted in significant interaction terms for Marital Distress with gender and for Conflict over Child-Rearing with gender. Model 2 also resulted in significant main effects for Marital Distress, Observed Conflict, and Conflict over Child-Rearing. The significant interaction terms in model 2 indicated that the influence of Marital Distress and Conflict over Child Rearing had different effects upon internalization problems depending on adolescent gender. The main effects model (without gender) was run separately for boys and girls. The findings for the gender subsamples showed significant effects for each of the three marital discord measures on girls' internalization problems, while none of the marital discord measures had significant effects on boys' internalization problems. For girls, more observed marital conflict and more conflict over child-rearing resulted in greater symptoms of internalization problems. The influence of Marital Distress on girls' internalization problems was in the opposite direction from what was predicted. Greater

Table 12. Standardized regression coefficients for internalization problems regressed on marital variables (N=366).

Marital Variables	Combined Sample		Gender Subsamples	
	Model 1	Model 2	Boys	Girls
Main Effects				
MD	-.14*	-.23*	.00	-.22*
OB	.10*	.14*	.04	.13*
CCR	.18*	.26*	.07	.23*
Gender	-.20*	.22		
Gender Interactions				
MD x G	----	.15*		
OB x G	----	-.22		
CCR x G	----	-.24*		
R-Square	.065	.077	.007	.066

* $p < .05$

marital distress resulted in fewer internalization problems for girls. This finding could be an artifact of the multicollinearity between Marital Distress and the other two marital measures. For parents of girls, Marital Distress correlated .438 with Observed Marital Conflict and .497 with Conflict over Child-Rearing, while the correlation between Observed Conflict and Conflict over Child-Rearing was lower (r = .378). Furthermore, Marital Distress correlated the least strongly among the marital measures with internalization problems (r = -.042, ns). The marital conflict measures explained about six percent of the variance in girls' internalization problems and less than one percent of the variance in boys' internalization problems. Since the results in Tables 11 and 12 indicated that further analyses should be conducted separately by adolescent gender for externalization and internalization problems, it was decided to also conduct separate analyses by gender for emotional well-being.

Parental Behavior Factors Regressed on Marital Discord Factors

To examine the relative influence of the different dimensions of marital discord on parental behavior, the fourth step in the analysis was to run separate multiple regression equations using SPSS for each parental behavior measure regressed on the three marital discord measures. The results for fathers' parental behaviors are shown in Table 13 and those for mothers' parental behaviors are shown in Table 14. For fathers, Observed Marital Conflict significantly and positively predicted Negative Affect directed toward both boys (beta = .36) and girls (beta = .30). Marital Distress, Observed Marital Conflict, and Conflict over Child-Rearing each had a significant, negative effect on fathers' Management of sons, while only Observed Marital Conflict had a significant, negative effect on fathers' Management of daughters. Observed Marital Conflict significantly and negatively predicted fathers' Positive Affect directed toward both sons (beta = -.33) and daughters (beta = -

Table 13. Standardized regression coefficients for fathers' parenting regressed on marital variables (N=366).

	Parenting					
Marital Variables	Neg. Affect Boys	Neg. Affect Girls	Management Boys	Management Girls	Pos. Affect Boys	Pos. Affect Girls
Mar. Distress	.08	.04	-.16*	.05	-.03	-.00
Obs. Conflict	.36*	.30*	-.24*	-.31*	-.33*	-.36*
Child Rearing	.11	.08	-.16*	-.05	-.04	.05
R-Square:	.201	.125	.186	.099	.125	.119

* $p < .05$

Table 14. Standardized regression coefficients for mothers' parenting regressed on marital variables (N=366).

	Parenting					
Marital Variables	Neg. Affect Boys	Neg. Affect Girls	Management Boys	Management Girls	Pos. Affect Boys	Pos. Affect Girls
Mar. Distress	.08	-.05	.01	-.03	-.05	-.07
Obs. Conflict	.21*	.28*	-.29*	-.17*	-.17*	-.22*
Child Rearing	.08	.10	-.28*	-.10	-.10	-.02
R-Square:	.088	.093	.186	.061	.062	.072

* $p < .05$

.36). The marital discord measures explained between approximately 10% and 20% of the variance in fathers' parental behaviors.

For mothers' parental behaviors (see Table 14), Observed Marital Conflict was again the most consistent significant predictor among the marital measures. For both adolescent boys and girls, Observed Marital Conflict significantly predicted mothers' Negative Affect, Management, and Positive Affect. The only other significant predictor was Conflict over Child-Rearing for mothers' Management of boys (beta = -.28). The marital discord measures explained between 6% and 19 % of the variance in mothers' parental behaviors.

Model Comparisons

The fifth step in the analyses was to conduct a series of model comparisons for each adolescent outcome, running the models in the series separately by adolescent gender and by parental behavior. LISREL VII was used to estimate the models (Joreskog and Sorbom, 1989). Six different models were examined for the series of model comparisons. Figure 2 depicts the six models that were compared. The first model was a baseline model. For the baseline model, the three exogenous marital conflict measures were allowed to correlate with one another, and the residual of the parental behavior measure was allowed to correlate with the residual of the adolescent adjustment outcome measure. This correlation between the residuals was imposed so that the baseline model would be identified. The next model in the series was the theoretical model. The theoretical model was compared to the baseline model with hopes that the theoretical model would fit the data better (significant reduction in Chi-square) than the baseline model. The next three models in the series assumed the exact same paths as the theoretical model and then each added one more path. The Distress Direct Effect model added a direct path from Marital Distress to the adolescent outcome; the Observed Direct Effect model added a direct path from Observed Marital Conflict to the adolescent outcome, and the Child-Rearing Direct Effect

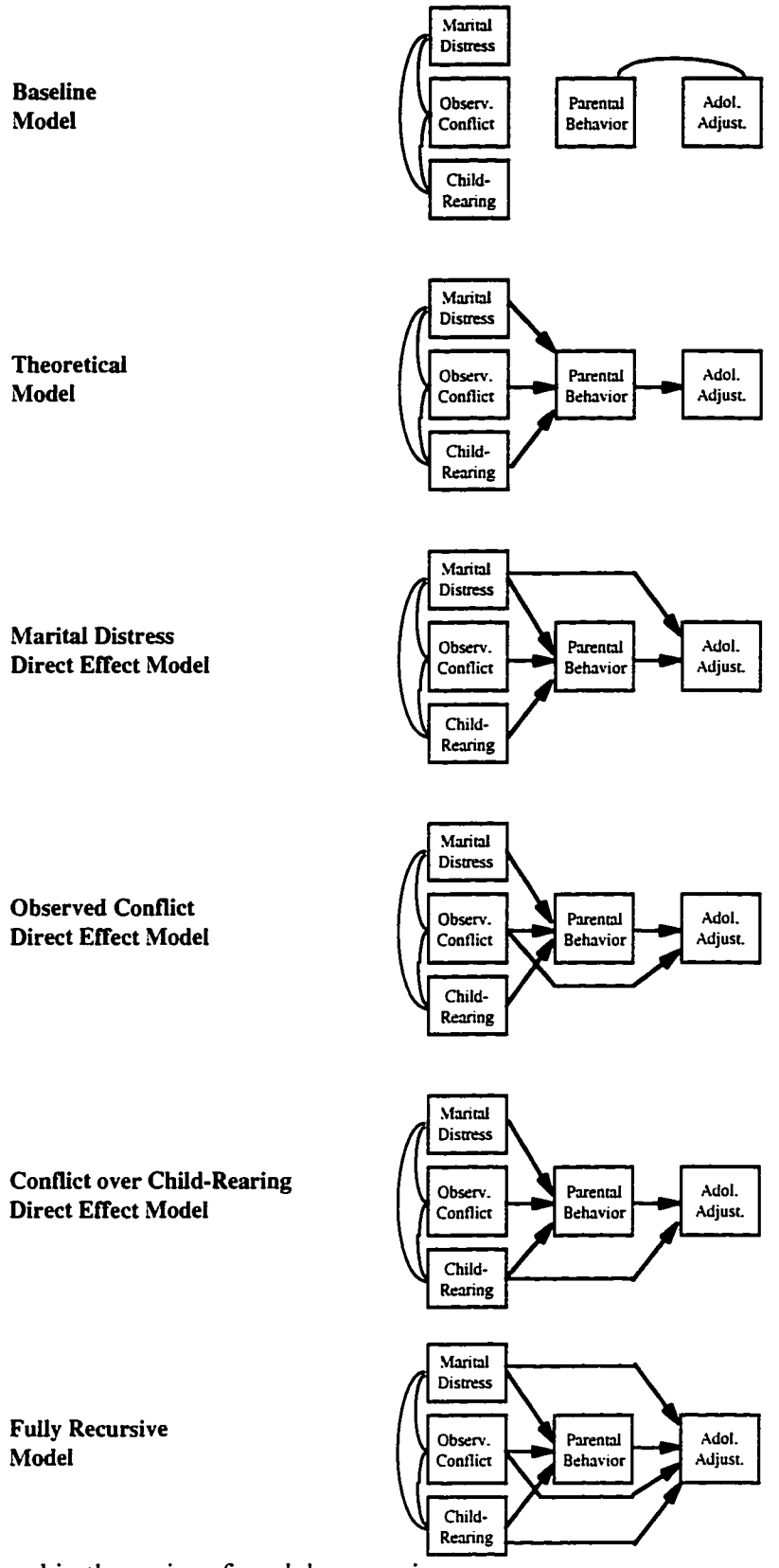


Figure 2. Models used in the series of model comparisons.

model added a direct path from Conflict over Child-Rearing to the adolescent outcome. Each of these three models was compared to the theoretical model to see if it fit the data better (significant reduction in Chi-square) than the theoretical model. The final model in the series was the fully recursive model. The fully recursive model was compared to the model that fit the data the best from the prior four models in the series. A non-significant reduction in Chi-square was the goal at this final stage in the model comparisons, indicating that the theoretical or one of the direct effect models fit the data as well as the fully recursive model but provided more parsimony than the fully recursive model with fewer (nonsignificant) paths.

The results of the model comparisons for adolescent emotional well-being are presented in Table 15 for boys and Table 16 for girls. For boy's emotional well-being, the theoretical model provided a better fit of the data than the baseline model. Comparing the theoretical model to the baseline model involved a reduction of three degrees of freedom. The corresponding reduction in Chi-square had to exceed 7.815 in order for the theoretical model to be a significant improvement in fit over the baseline model ($p < .05$). When each of the parental behavior measures was employed as the mediating mechanism, for both fathers and mothers, the reduction in Chi-square was significant, ranging from 10.95 to 38.35.

Next, the Distress Direct Effect, Observed Direct Effect, and Child-Rearing Direct Effect models were each compared to the theoretical model to see if any of these models fit the data better than the theoretical model. Comparing each of these direct effect models to the theoretical model involved a reduction of one degree of freedom. The corresponding reduction in Chi-square had to exceed 3.841 in order for the direct effect model to be a significant improvement over the theoretical model ($p < .05$). There were no instances where there was a significant reduction in Chi-square. The reductions in Chi-square ranged from 0.01 to 3.15.

Table 15. Model comparisons for boys' emotional well-being.

	X^2	df	Chg X^2	Chg df
Fathers' Negative Affect				
Baseline Model	42.63	6		
Theoretical Model	4.28	3	38.35*	3
Distress Direct Effect	4.17	2	0.11	1
Observed Direct Effect	3.59	2	0.69	1
Child Rearing Direct Effect	1.21	2	3.07	1
Fully Recursive	0.00	0	4.28	3
Fathers' Management				
Baseline Model	39.01	6		
Theoretical Model	3.89	3	35.12*	3
Distress Direct Effect	3.88	2	0.01	1
Observed Direct Effect	3.88	2	0.01	1
Child Rearing Direct Effect	1.57	2	2.32	1
Fully Recursive	0.00	0	3.89	3
Fathers' Positive Affect				
Baseline Model	27.67	6		
Theoretical Model	4.89	3	22.78*	3
Distress Direct Effect	4.82	2	0.07	1
Observed Direct Effect	3.86	2	1.03	1
Child Rearing Direct Effect	1.89	2	3.00	1
Fully Recursive	0.00	0	4.89	3
Mothers' Negative Affect				
Baseline Model	19.93	6		
Theoretical Model	4.18	3	15.15*	3
Distress Direct Effect	4.04	2	0.14	1
Observed Direct Effect	3.75	2	0.43	1
Child Rearing Direct Effect	1.03	2	3.15	1
Fully Recursive	0.00	0	4.18	3
Mothers' Management				
Baseline Model	38.85	6		
Theoretical Model	3.74	3	35.11*	3
Distress Direct Effect	3.65	2	0.09	1
Observed Direct Effect	3.11	2	0.63	1
Child Rearing Direct Effect	1.02	2	2.72	1
Fully Recursive	0.00	0	3.74	3

Table 15. (continued)

	X^2	df	Chg X^2	Chg df
Mothers' Positive Affect				
Baseline Model	15.01	6		
Theoretical Model	4.06	3	10.95*	3
Distress Direct Effect	4.03	2	0.03	1
Observed Direct Effect	3.19	2	0.87	1
Child Rearing Direct Effect	1.63	2	2.43	1
Fully Recursive	0.00	0	4.06	3

* $p < .05$

As a final comparison, the fully recursive model was compared to the theoretical model to determine whether the theoretical model fit the data as well as did the fully recursive model. A nonsignificant reduction in Chi-square indicated that the theoretical model fit the data as well as the fully recursive model, while providing more parsimony. Comparing the fully recursive model to the theoretical model involved a reduction of three degrees of freedom. The corresponding reduction in the Chi-square had to be less than 7.815 in order for the theoretical model to fit the data as well as the fully recursive model ($p < .05$). When each of the parental behavior measures was used as the mediating mechanism, for both fathers and mothers, the reduction in Chi-square was non-significant, ranging from 3.74 to 4.89. For boys' emotional well-being the theoretical model fit the data the best.

For girls' emotional well-being (see Table 16), the theoretical model provided a better fit to the data than the baseline model. When comparing the theoretical model to the baseline model, the theoretical model yielded significant reductions in Chi-square, ranging from 12.39 to 26.02. Next, the three direct effect models were each compared to the theoretical model to see if any of these models fit the data better than the theoretical model.

Table 16. Model comparisons for girls' emotional well-being.

	X^2	df	Chg X^2	Chg df
Fathers' Negative Affect				
Baseline Model	34.60	6		
Theoretical Model	8.58	3	26.02*	3
Distress Direct Effect	5.64	2	2.94	1
Observed Direct Effect	8.06	2	0.52	1
Child Rearing Direct Effect	0.32	2	8.26*	1
Fully Recursive	0.00	0	0.32	2
Fathers' Management				
Baseline Model	29.07	6		
Theoretical Model	8.84	3	20.23*	3
Distress Direct Effect	5.70	2	3.14	1
Observed Direct Effect	5.70	2	3.14	1
Child Rearing Direct Effect	0.70	2	8.14*	1
Fully Recursive	0.00	0	0.70	2
Fathers' Positive Affect				
Baseline Model	33.22	6		
Theoretical Model	8.56	3	24.66*	3
Distress Direct Effect	5.79	2	2.77	1
Observed Direct Effect	8.24	2	0.32	1
Child Rearing Direct Effect	0.53	2	8.03*	1
Fully Recursive	0.00	0	0.53	2
Mothers' Negative Affect				
Baseline Model	27.33	6		
Theoretical Model	8.34	3	18.99*	3
Distress Direct Effect	5.48	2	2.86	1
Observed Direct Effect	7.92	2	0.42	1
Child Rearing Direct Effect	0.39	2	7.95*	1
Fully Recursive	0.00	0	0.39	2
Mothers' Management				
Baseline Model	22.07	6		
Theoretical Model	9.68	3	12.39*	3
Distress Direct Effect	6.15	2	3.53	1
Observed Direct Effect	8.73	2	0.95	1
Child Rearing Direct Effect	0.30	2	9.38*	1
Fully Recursive	0.00	0	0.30	2

Table 16. (continued)

	X^2	df	Chg X^2	Chg df
Mothers' Positive Affect				
Baseline Model	22.33	6		
Theoretical Model	7.72	3	14.61*	3
Distress Direct Effect	5.71	2	2.01	1
Observed Direct Effect	7.65	2	0.07	1
Child Rearing Direct Effect	0.70	2	7.02*	1
Fully Recursive	0.00	0	0.70	2

* $p < .05$

When each of the parental behavior measures was used as the mediating mechanism, for both fathers and mothers, the Conflict over Child Rearing Direct Effect model provided a better fit to the data than the theoretical model. These results indicated that the direct path from Conflict over Child-Rearing to girls' emotional well-being provided a significant reduction in Chi-square, ranging from 7.02 to 9.38. Last, when comparing the Conflict over Child-Rearing Direct Effect model to the fully recursive model, the non-significant reduction in Chi-square indicated that the Conflict over Child-Rearing Direct Effect model fit the data as well as the fully recursive model. For girls' emotional well-being the Conflict over Child-Rearing Direct Effects model provided the best fit to the data.

The results of the model comparisons for adolescent externalization problems are presented in Table 17 for boys and Table 18 for girls. For boys' externalization problems, the theoretical model provided a better fit of the data than the baseline model. When comparing the theoretical model to the baseline model, the theoretical model yielded a significant reduction in Chi-square, ranging from 10.95 to 38.34. Next, the three direct effect models were each compared to the theoretical model to see if any of these models fit the data better than the theoretical model. When each of the parental behavior measures

Table 17. Model comparisons for boys' externalization problems.

	X^2	df	Chg X^2	Chg df
Fathers' Negative Affect				
Baseline Model	53.43	6		
Theoretical Model	15.09	3	38.34*	3
Distress Direct Effect	12.95	2	2.14	1
Observed Direct Effect	15.09	2	0.00	1
Child Rearing Direct Effect	0.42	2	14.67*	1
Fully Recursive	0.00	0	0.42	2
Fathers' Management				
Baseline Model	47.22	6		
Theoretical Model	12.10	3	35.12*	3
Distress Direct Effect	11.86	2	0.24	1
Observed Direct Effect	11.12	2	0.98	1
Child Rearing Direct Effect	2.51	2	9.59*	1
Fully Recursive	0.00	0	2.51	2
Fathers' Positive Affect				
Baseline Model	37.71	6		
Theoretical Model	14.93	3	22.78*	3
Distress Direct Effect	13.52	2	1.41	1
Observed Direct Effect	14.62	2	0.31	1
Child Rearing Direct Effect	1.70	2	13.23*	1
Fully Recursive	0.00	0	1.70	2
Mothers' Negative Affect				
Baseline Model	29.57	6		
Theoretical Model	13.83	3	15.74*	3
Distress Direct Effect	13.20	2	0.63	1
Observed Direct Effect	13.08	2	0.75	1
Child Rearing Direct Effect	2.59	2	11.24*	1
Fully Recursive	0.00	0	2.59	2
Mothers' Management				
Baseline Model	47.97	6		
Theoretical Model	12.86	3	35.11*	3
Distress Direct Effect	11.63	2	1.23	1
Observed Direct Effect	12.64	2	0.22	1
Child Rearing Direct Effect	0.90	2	11.96*	1
Fully Recursive	0.00	0	0.90	2

Table 17. (continued)

	X^2	df	Chg X^2	Chg df
Mothers' Positive Affect				
Baseline Model	24.65	6		
Theoretical Model	13.70	3	10.95*	3
Distress Direct Effect	12.40	2	1.30	1
Observed Direct Effect	13.57	2	0.13	1
Child Rearing Direct Effect	1.26	2	12.44*	1
Fully Recursive	0.00	0	1.26	2

* $p < .05$

was used as the mediating mechanism, for both fathers and mothers, the Conflict over Child-Rearing Direct Effect model provided a better fit to the data than the theoretical model. Including the path from Conflict over Child-Rearing to boys' externalization problems provided a significant reduction in Chi-square, ranging from 9.59 to 14.67. When comparing the fully recursive model to the Conflict over Child-Rearing Direct Effect model, the non-significant reduction in Chi-square indicated that the Conflict over Child-Rearing model fit the data as well as the fully recursive model. Therefore, for boys' externalization problems, the Conflict over Child-Rearing Direct Effects model provided the best fit to the data.

For girls' externalization problems (see Table 18), the theoretical model provided a better fit of the data than the baseline model. When comparing the theoretical model to the baseline model, the theoretical model yielded a significant reduction in Chi-square, ranging from 12.40 to 26.02. When comparing each of the three direct effect models to the theoretical model, the Observed Marital Conflict Direct Effect model fit the data better than the theoretical model, with significant reductions in Chi-square ranging from 6.31 to 9.53. Including the path from Observed Marital Conflict to girls' externalization problems significantly improved the fit of the model. Next the fully recursive model was compared

Table 18. Model comparisons for girls' externalization problems.

	X^2	df	Chg X^2	Chg df
Fathers' Negative Affect				
Baseline Model	33.10	6		
Theoretical Model	7.08	3	26.02*	3
Distress Direct Effect	6.98	2	0.10	1
Observed Direct Effect	0.77	2	6.31*	1
Child Rearing Direct Effect	6.19	2	0.89	1
Fully Recursive	0.00	0	0.77	2
Fathers' Management				
Baseline Model	28.65	6		
Theoretical Model	8.42	3	20.23*	3
Distress Direct Effect	7.86	2	0.56	1
Observed Direct Effect	0.55	2	7.87*	1
Child Rearing Direct Effect	6.81	2	1.61	1
Fully Recursive	0.00	0	0.55	2
Fathers' Positive Affect				
Baseline Model	32.92	6		
Theoretical Model	8.25	3	24.67*	3
Distress Direct Effect	7.79	2	0.46	1
Observed Direct Effect	0.81	2	7.44*	1
Child Rearing Direct Effect	6.19	2	2.06	1
Fully Recursive	0.00	0	0.81	2
Mothers' Negative Affect				
Baseline Model	27.26	6		
Theoretical Model	8.27	3	18.99*	3
Distress Direct Effect	7.78	2	0.49	1
Observed Direct Effect	0.48	2	7.79*	1
Child Rearing Direct Effect	6.98	2	1.29	1
Fully Recursive	0.00	0	0.48	2
Mothers' Management				
Baseline Model	22.63	6		
Theoretical Model	10.23	3	12.40*	3
Distress Direct Effect	9.80	2	0.43	1
Observed Direct Effect	0.70	2	9.53*	1
Child Rearing Direct Effect	8.76	2	1.47	1
Fully Recursive	0.00	0	0.70	2

Table 18. (continued)

	X^2	df	Chg X^2	Chg df
Mothers' Positive Affect				
Baseline Model	22.98	6		
Theoretical Model	8.37	3	14.61*	3
Distress Direct Effect	8.22	2	0.15	1
Observed Direct Effect	1.02	2	7.35*	1
Child Rearing Direct Effect	6.97	2	1.40	1
Fully Recursive	0.00	0	1.02	2

* $p < .05$

to the Observed Conflict Direct Effect model. In every instance, the fully recursive model failed to provide a better fit than the Observed Conflict Direct Effect model, with non-significant Chi-square reductions ranging from 0.48 to 1.02. Therefore, for girls' externalization problems, the Observed Marital Conflict Direct Effect model gave the best fit to the data.

The findings for the model comparisons for adolescent internalization problems are given in Table 19 for boys and in Table 20 for girls. For boys' internalization problems, the theoretical model provided a better fit of the data than the baseline model. When comparing the theoretical model to the baseline model, the theoretical model yielded significant reductions in Chi-square ranging from 10.95 to 38.35. Next, each of the direct effect models was compared to the theoretical model. There were no instances where any of the direct effect models showed a significant improvement in model fit over the theoretical model. The nonsignificant reductions in Chi-square ranged from 0.01 to 1.00. As a final comparison, the fully recursive model was compared to the theoretical model. The results indicated that the theoretical model fit the data as well as the fully recursive model, with nonsignificant reductions in Chi-square ranging from 0.32 to 1.32.

Table 19. Model comparisons for boys' internalization problems.

	X^2	df	Chg X^2	Chg df
Fathers' Negative Affect				
Baseline Model	38.95	6		
Theoretical Model	0.60	3	38.35*	3
Distress Direct Effect	0.45	2	0.15	1
Observed Direct Effect	0.55	2	0.05	1
Child Rearing Direct Effect	0.03	2	0.57	1
Fully Recursive	0.00	0	0.60	3
Fathers' Management				
Baseline Model	35.44	6		
Theoretical Model	0.32	3	35.12*	3
Distress Direct Effect	0.30	2	0.02	1
Observed Direct Effect	0.31	2	0.01	1
Child Rearing Direct Effect	0.04	2	0.28	1
Fully Recursive	0.00	0	0.32	3
Fathers' Positive Affect				
Baseline Model	24.10	6		
Theoretical Model	1.32	3	22.78*	3
Distress Direct Effect	0.82	2	0.50	1
Observed Direct Effect	0.80	2	0.52	1
Child Rearing Direct Effect	0.32	2	1.00	1
Fully Recursive	0.00	0	1.32	3
Mothers' Negative Affect				
Baseline Model	16.18	6		
Theoretical Model	0.44	3	15.74*	3
Distress Direct Effect	0.38	2	0.06	1
Observed Direct Effect	0.42	2	0.02	1
Child Rearing Direct Effect	0.02	2	0.42	1
Fully Recursive	0.00	0	0.44	3
Mothers' Management				
Baseline Model	35.61	6		
Theoretical Model	0.50	3	35.11*	3
Distress Direct Effect	0.33	2	0.17	1
Observed Direct Effect	0.41	2	0.09	1
Child Rearing Direct Effect	0.06	2	0.44	1
Fully Recursive	0.00	0	0.50	3

Table 19. (continued)

	X^2	df	Chg X^2	Chg df
Mothers' Positive Affect				
Baseline Model	11.91	6		
Theoretical Model	0.96	3	10.95*	3
Distress Direct Effect	0.62	2	0.34	1
Observed Direct Effect	0.67	2	0.29	1
Child Rearing Direct Effect	0.16	2	0.80	1
Fully Recursive	0.00	0	0.96	3

* $p < .05$

For girls' internalization problems (see Table 20), the theoretical model provided a better fit to the data than the baseline model. When comparing the theoretical model to the baseline model, the theoretical model produced significant reductions in Chi-square, ranging from 12.40 to 26.03. Next the three direct effects models were each compared to the theoretical model to see if any of these models fit the data better than the theoretical model. When comparing each direct effect model to the theoretical model, the Conflict over Child-Rearing Direct Effect model provided a better fit to the data than the theoretical model, with significant reductions in Chi-square ranging from 5.14 to 6.07. Lastly, when comparing the fully recursive model to the Conflict over Child-Rearing Direct Effect model, the fully recursive model also provided significant reductions in Chi-square, ranging from 6.83 to 7.30. These significant reductions indicated that the fully recursive model fit the data better than the Conflict over Child-Rearing Direct Effect model. This implies that there are other important direct paths from the marital discord measures to girls' internalization that need to be included in the model.

To summarize the results of the model comparisons, for boys' emotional well-being and internalization problems, the theoretical model provided the best fit to the data, while for boys' externalization problems, the Conflict over Child-Rearing Direct Effect model

	X^2	df	Chg X^2	Chg df
Fathers' Negative Affect				
Baseline Model	38.33	6		
Theoretical Model	12.30	3	26.03*	3
Distress Direct Effect	11.59	2	0.71	1
Observed Direct Effect	10.21	2	2.09	1
Child Rearing Direct Effect	7.09	2	5.21*	1
Fully Recursive	0.00	0	7.09*	2
Fathers' Management				
Baseline Model	32.75	6		
Theoretical Model	12.52	3	20.23*	3
Distress Direct Effect	12.03	2	0.49	1
Observed Direct Effect	10.18	2	2.34	1
Child Rearing Direct Effect	6.96	2	5.56*	1
Fully Recursive	0.00	0	6.96*	2
Fathers' Positive Affect				
Baseline Model	37.14	6		
Theoretical Model	12.48	3	24.66*	3
Distress Direct Effect	11.90	2	0.58	1
Observed Direct Effect	10.45	2	2.03	1
Child Rearing Direct Effect	6.83	2	5.65*	1
Fully Recursive	0.00	0	6.83*	2
Mothers' Negative Affect				
Baseline Model	31.51	6		
Theoretical Model	12.52	3	18.99*	3
Distress Direct Effect	12.02	2	0.50	1
Observed Direct Effect	10.14	2	2.38	1
Child Rearing Direct Effect	7.04	2	5.48*	1
Fully Recursive	0.00	0	7.04*	2
Mothers' Management				
Baseline Model	25.77	6		
Theoretical Model	13.37	3	12.40*	3
Distress Direct Effect	12.97	2	0.40	1
Observed Direct Effect	10.37	2	3.00	1
Child Rearing Direct Effect	7.30	2	6.07*	1
Fully Recursive	0.00	0	7.30*	2

Table 20. (continued)

	X^2	df	Chg X^2	Chg df
Mothers' Positive Affect				
Baseline Model	27.05	6		
Theoretical Model	12.44	3	14.61*	3
Distress Direct Effect	11.64	2	0.80	1
Observed Direct Effect	10.56	2	1.88	1
Child Rearing Direct Effect	7.26	2	5.18*	1
Fully Recursive	0.00	0	7.26*	2

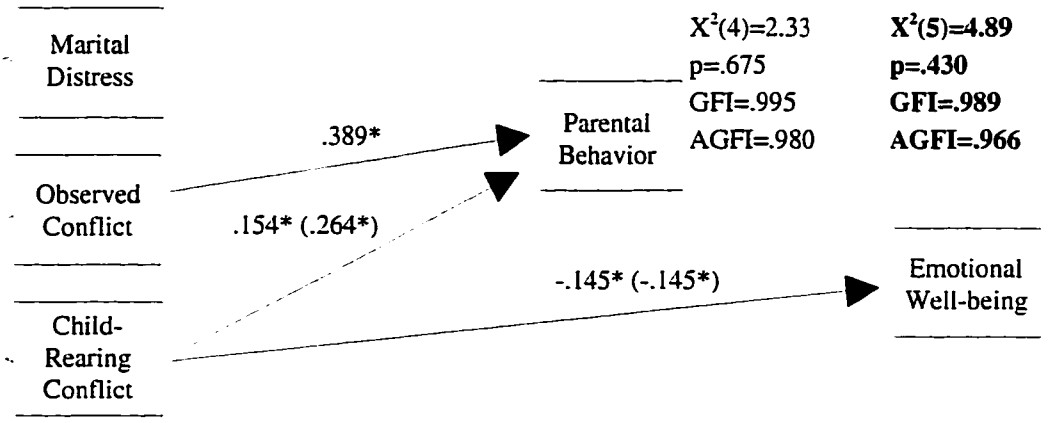
* $p < .05$

gave the best fit to the data. For girls' emotional well-being, the Conflict over Child-Rearing Direct Effect model best fit the data; for girls' externalization problems, the Observed Marital Conflict Direct Effect model provided the best fit of the data; and for girls' internalization problems, the fully recursive model gave the best fit of the data.

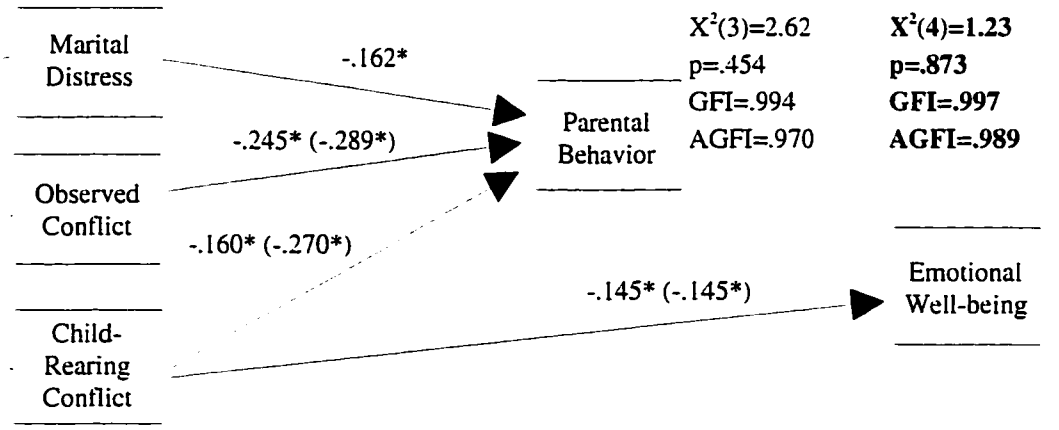
Trimmed Path Models

Based on the model comparisons just provided, the final step in the analysis was to run a series of "trimmed" path models for each adolescent outcome separately by adolescent gender and by parental behavior. LISREL VII was used to estimate the models. To avoid eliminating possibly significant paths, the models were re-estimated using the fully recursive model as a starting point. Paths that had t-values less than 1.282 ($p > .10$ for a one-tailed test) were removed, and the model was re-run. This process resulted in more parsimonious models. The results are presented in figures, beginning with Figure 3. Path coefficients for fathers' parental behavior do not have parentheses, while path coefficients for mothers' parental behavior are enclosed in parentheses. The Chi-square value and degrees of freedom, p-value, Goodness of Fit Index, and Adjusted Goodness of Fit Index for the model fit are not in bold for the father models and are in bold for the mother models.

Panel A: Negative Affect



Panel B: Management



Panel C: Positive Affect

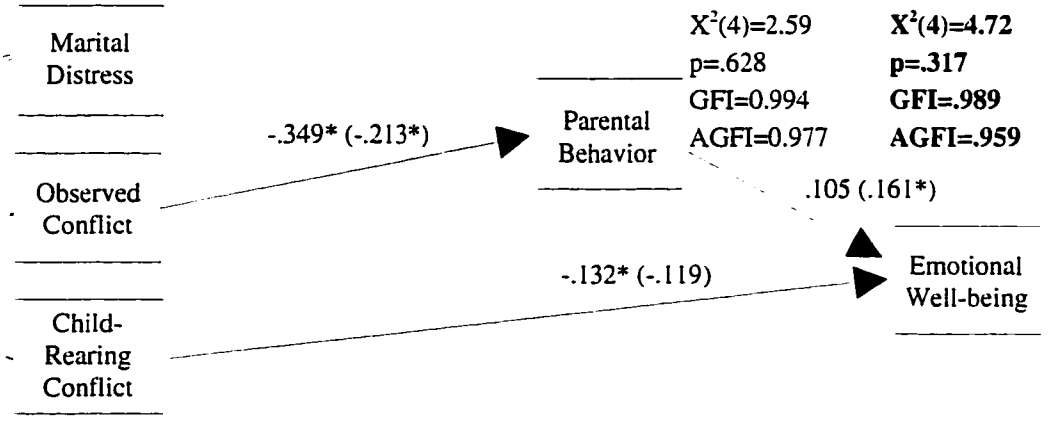


Figure 3. Standardized path coefficients for boys' emotional well-being.

Results for boys' emotional well-being are presented in Figure 3. When Negative Affect (of both fathers and mothers) was employed as the mediating mechanism, only Conflict over Child-Rearing had a significant (direct) effect on boys' emotional well-being. Observed Marital Conflict and Conflict over Child-Rearing significantly predicted fathers' Negative Affect, while only Conflict over Child-Rearing was significantly related to mothers' Negative Affect. Negative Affect of (fathers and mothers) did not mediate the influence of the marital conflict measures on boys' emotional well-being. When Management was used as the mediating mechanism, only Conflict over Child-Rearing had a significant (direct) effect on boys' emotional well-being. Marital Distress, Observed Marital Conflict, and Conflict over Child-Rearing all significantly predicted fathers' Management. Observed Marital Conflict and Conflict over Child-Rearing were both significantly related to mothers' Management. Neither fathers' or mothers' Management mediated the influence of the marital measures on boy's emotional well-being.

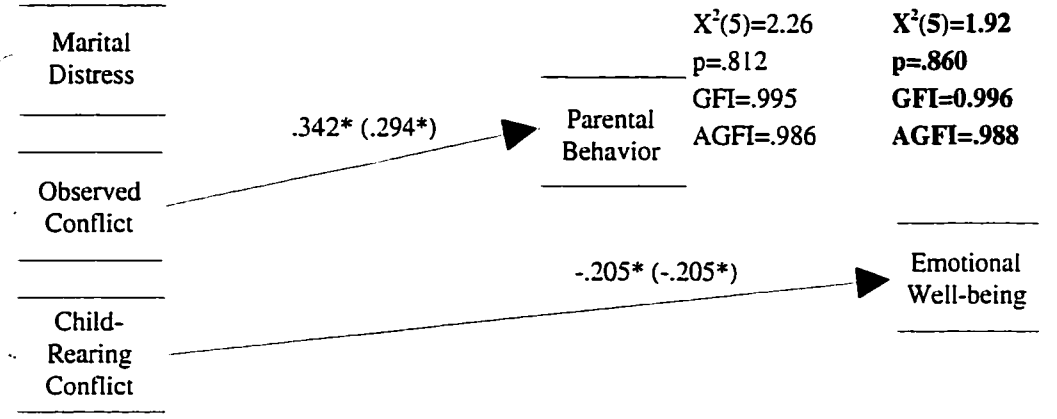
When fathers' Positive Affect was used as the mediating mechanism in the model, only Conflict over Child-Rearing had a significant effect on boys' emotional well-being. Fathers' Positive Affect had an influence on well-being, but it was not statistically significant ($t = 1.389$). In addition, Observed Marital Conflict significantly predicted fathers' Positive Affect. There was not a significant indirect effect of Observed Marital Conflict on boys' emotional well-being through fathers' Positive Affect ($t=1.40$). For the mothers' Positive Affect model, only Positive Affect significantly predicted boys' emotional well-being. Conflict over Child-Rearing had an influence on well-being that failed to reach statistical significance ($t = -1.582$). Observed Marital Conflict significantly predicted mothers' Positive Affect, and there was a significant indirect effect of Observed Conflict on emotional well-being through mothers' Positive Affect. To summarize the findings for boys' emotional well-being, in five out of the six models, Conflict over Child-Rearing had a significant direct effect on well-being. The more interparental conflict over

child-rearing, the poorer adolescent boys' emotional well-being. In addition, mothers' Positive Affect mediated a significant indirect effect of Observed Marital Conflict on boys' well-being.

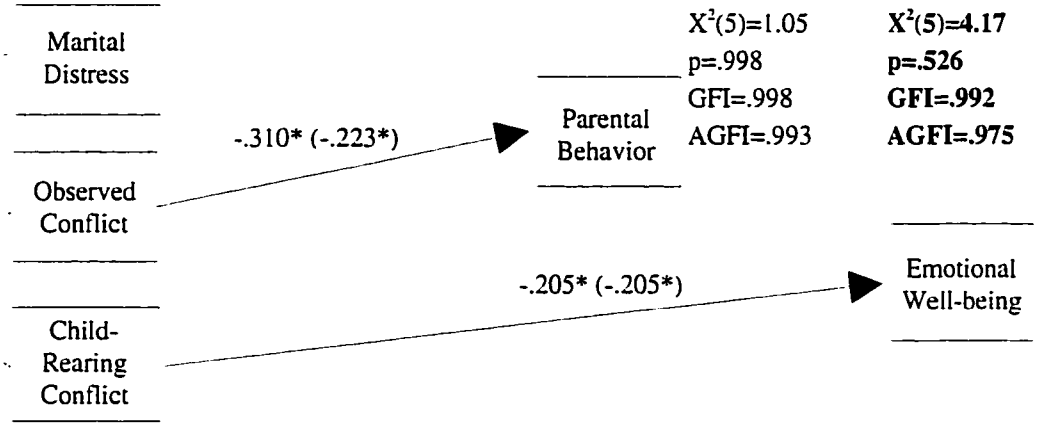
Figure 4 shows the trimmed models for girls' emotional well-being. When both fathers' and mothers' Negative Affect were employed as the mediating parental behavior, only Conflict over Child-Rearing significantly predicted girls' emotional well-being. Observed Conflict significantly predicted both fathers' and mother's Negative Affect, but neither fathers' nor mothers' Negative Affect mediated the influence on Observed Conflict on girls' emotional well-being. The results were similar when fathers' and mothers' Management and Positive Affect were used as the mediating parental behaviors. Only Conflict over Child-Rearing significantly predicted girls' emotional well-being. Again, Observed Conflict significantly predicted both fathers' and mothers' Management and Positive Affect, but neither parents' Management nor Positive Affect mediated the influence of Observed Conflict on girls' emotional well-being. To summarize the results for girls' emotional well-being, in every model Conflict over Child-Rearing at Wave 1 predicted girls' emotional well-being two years later. These findings are consistent with the findings from the model comparisons that indicated a significant direct effect from Conflict over Child-Rearing to girls' emotional well-being.

Results for boys' externalization problems are shown in Figure 5. For the fathers' Negative Affect model, only Conflict over Child-Rearing significantly predicted boys' externalization problems. Observed Marital Conflict and Conflict over Child-Rearing significantly predicted fathers' Negative Affect, but fathers' Negative Affect did not mediate the relationship between the marital conflict measures and boys' externalization problems. When mothers' Negative Affect was employed as the mediating parental behavior, Conflict over Child-Rearing and mothers' Negative Affect significantly predicted boys' externalization problems. In addition, Observed Marital Conflict significantly

Panel A: Negative Affect



Panel B: Management



Panel C: Positive Affect

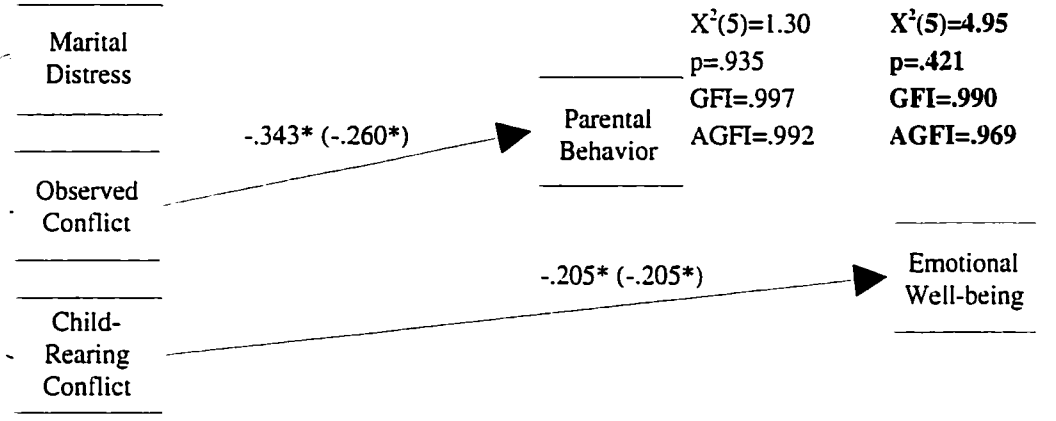
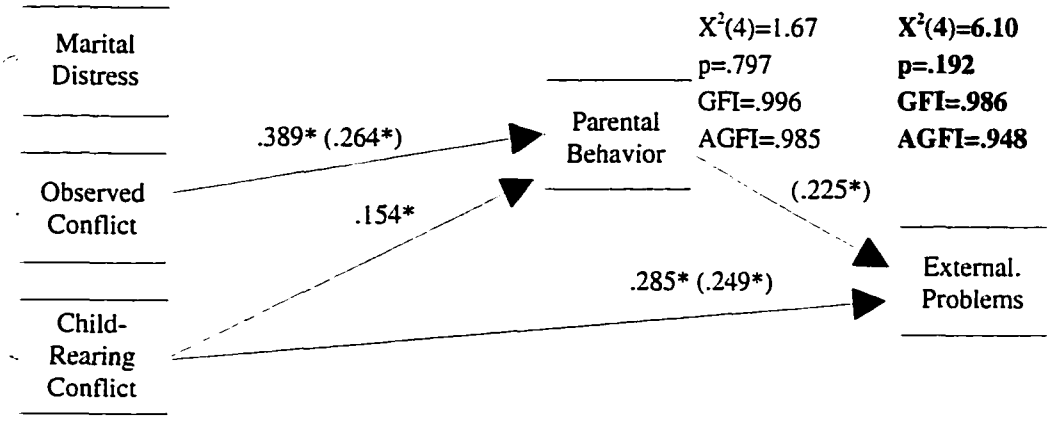
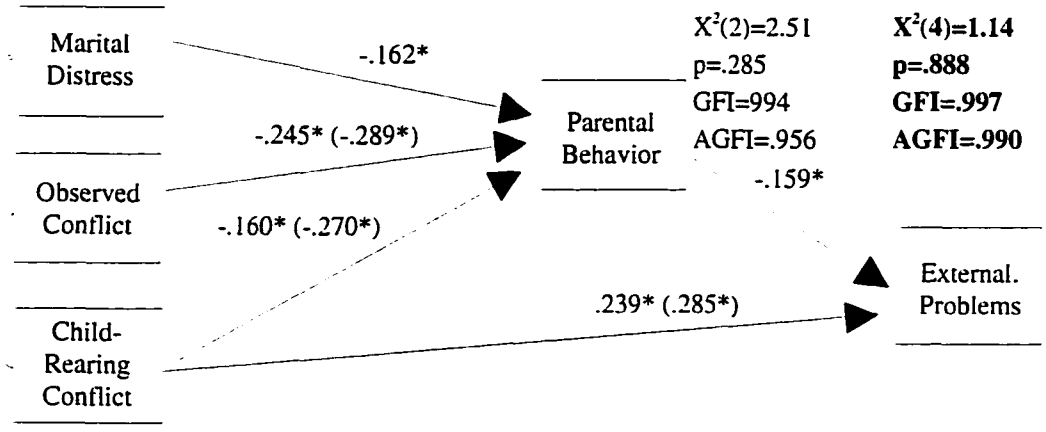


Figure 4. Standardized path coefficients for girls' emotional well-being.

Panel A: Negative Affect



Panel B: Management



Panel C: Positive Affect

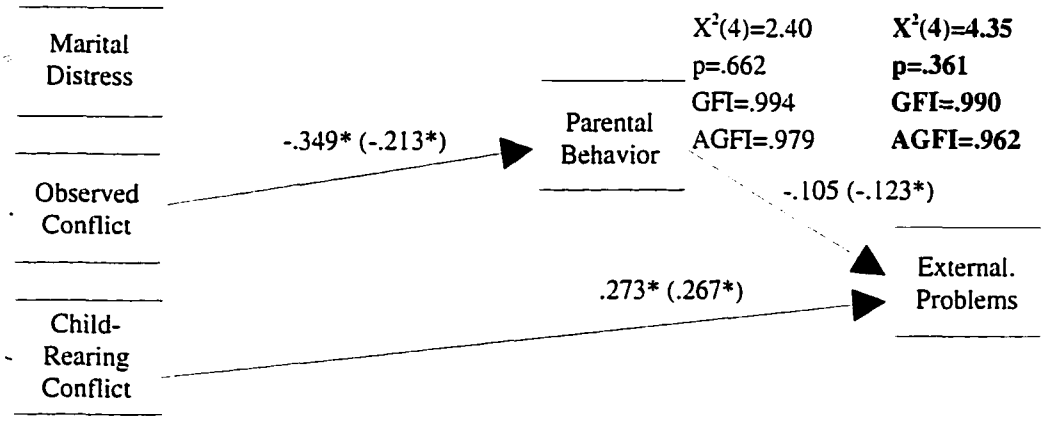


Figure 5. Standardized path coefficients for boys' externalization problems.

predicted mothers' Negative Affect, and there was a significant indirect effect of Observed Marital Conflict on boys' externalization problems through mothers' Negative Affect. When fathers' Management was used as the mediating parental mechanism, Conflict over Child-Rearing and fathers' Management significantly predicted boys' externalization problems. In addition, Marital Distress, Observed Marital Conflict and Conflict over Child-Rearing significantly predicted fathers' Management. Furthermore, there was a significant indirect effect of Observed Conflict on boys' externalization problems through father's Management. The indirect effects of Marital Distress and Conflict over Child-Rearing were not significant ($t = 1.35$ and $t = 1.33$, respectively). For the mothers' Management model, only Conflict over Child-Rearing significantly predicted boys' externalization problems. Observed Marital Conflict and Conflict over Child-Rearing significantly predicted mothers' Management, but Management did not mediate the relationship between the marital conflict measures and boys' externalization problems.

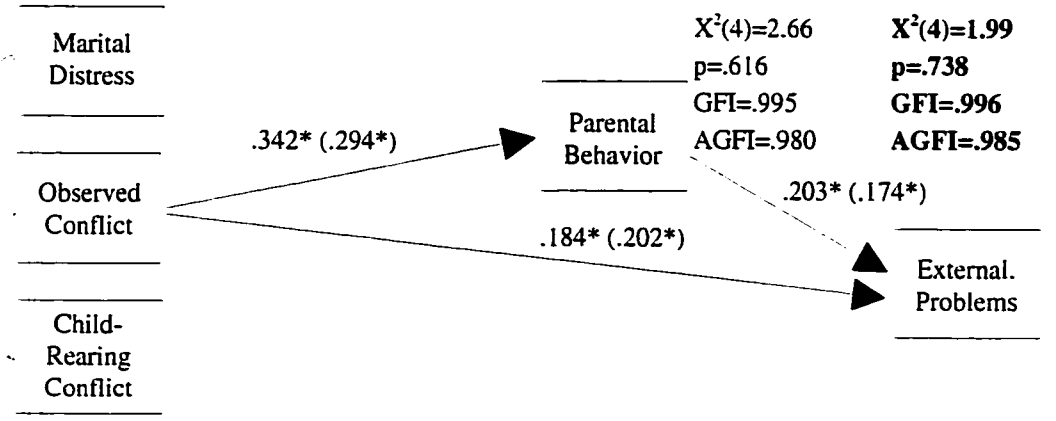
When fathers' Positive Affect was used as the mediating parental behavior, only Conflict over Child-Rearing significantly predicted boys' externalization problems. Fathers' Positive Affect also had an influence on externalization problems, but it failed to reach statistical significance ($t = -1.429$). Observed Marital Conflict significantly predicted father's Positive Affect, but there was not a significant indirect effect of Observed Marital Conflict through Positive Affect. The model for mothers' Positive Affect produced similar results. Conflict over Child-Rearing and mothers' Positive Affect significantly predicted boys' externalization problems, while Observed Marital Conflict significantly predicted mothers' Positive Affect. Once again, there failed to be a significant indirect effect of Observed Marital Conflict on boys' externalization problems through (mothers') Positive Affect. To summarize the results for boys' externalization problems, in every model Conflict over Child-Rearing significantly, directly predicted boys' externalization problems. In addition, Observed Marital Conflict had a significant indirect effect through

mothers' Negative Affect and through fathers' Management. These findings are consistent with the findings from the model comparisons that indicated the Conflict over Child-Rearing Direct Effect model best fit the data.

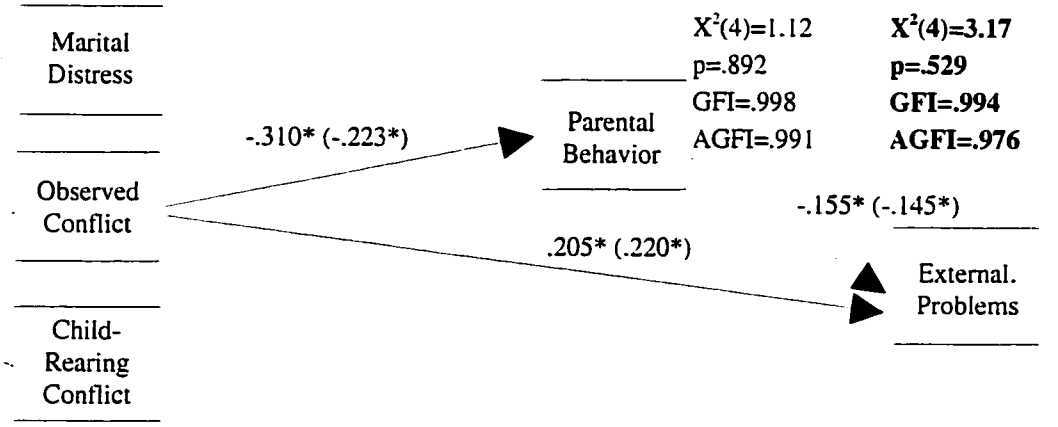
The trimmed models for girls' externalization problems are presented in Figure 6. The results for girls' externalization problems were the same for each mediating parental behavior for both fathers and mothers. In every model, Observed Marital Conflict had a significant direct effect on girls' externalization problems. In addition, each parental behavior, for both fathers and mothers, significantly predicted girls' externalization. Furthermore, in every model, Observed Marital Conflict significantly predicted each of the parental behaviors, for both fathers' and mothers' behaviors, and there were significant indirect effects of Observed Marital Conflict through each of the parental behaviors on girls' externalization problems. So, Observed Marital Conflict was consistently directly related to girls' externalization problems, it was also consistently indirectly related to girls' externalization problems. These finding correspond to the findings of the model comparisons that indicated the Observed Conflict Direct Effect model provided the best fit of the data.

The results for boys' internalization problems are presented in Figure 7. The models did a poor job of predicting boys' internalization problems. In every model, none of the marital measures had a significant direct effect on boys' internalization problems. Furthermore, mothers' Negative Affect was the only parental behavior that significantly predicted boys' internalization. Observed Marital Conflict significantly predicted mothers' Negative Affect and had a significant indirect effect on boys' internalization problems through mothers' Negative Affect. Both Observed Marital Conflict and Conflict over Child-Rearing significantly predicted fathers' Negative Affect, but fathers' Negative Affect did not mediate the influence of the marital conflict variables on boys' internalization problems.

Panel A: Negative Affect



Panel B: Management



Panel C: Positive Affect

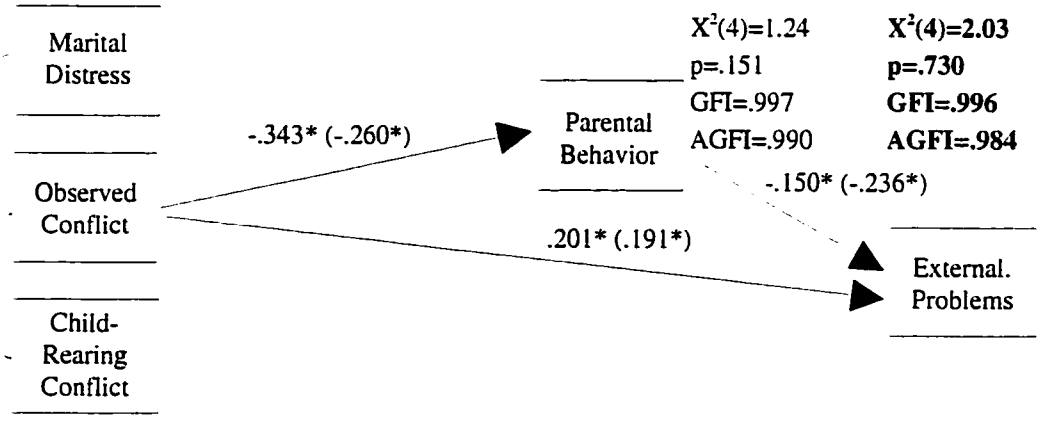


Figure 6. Standardized path coefficients for girls' externalization problems.

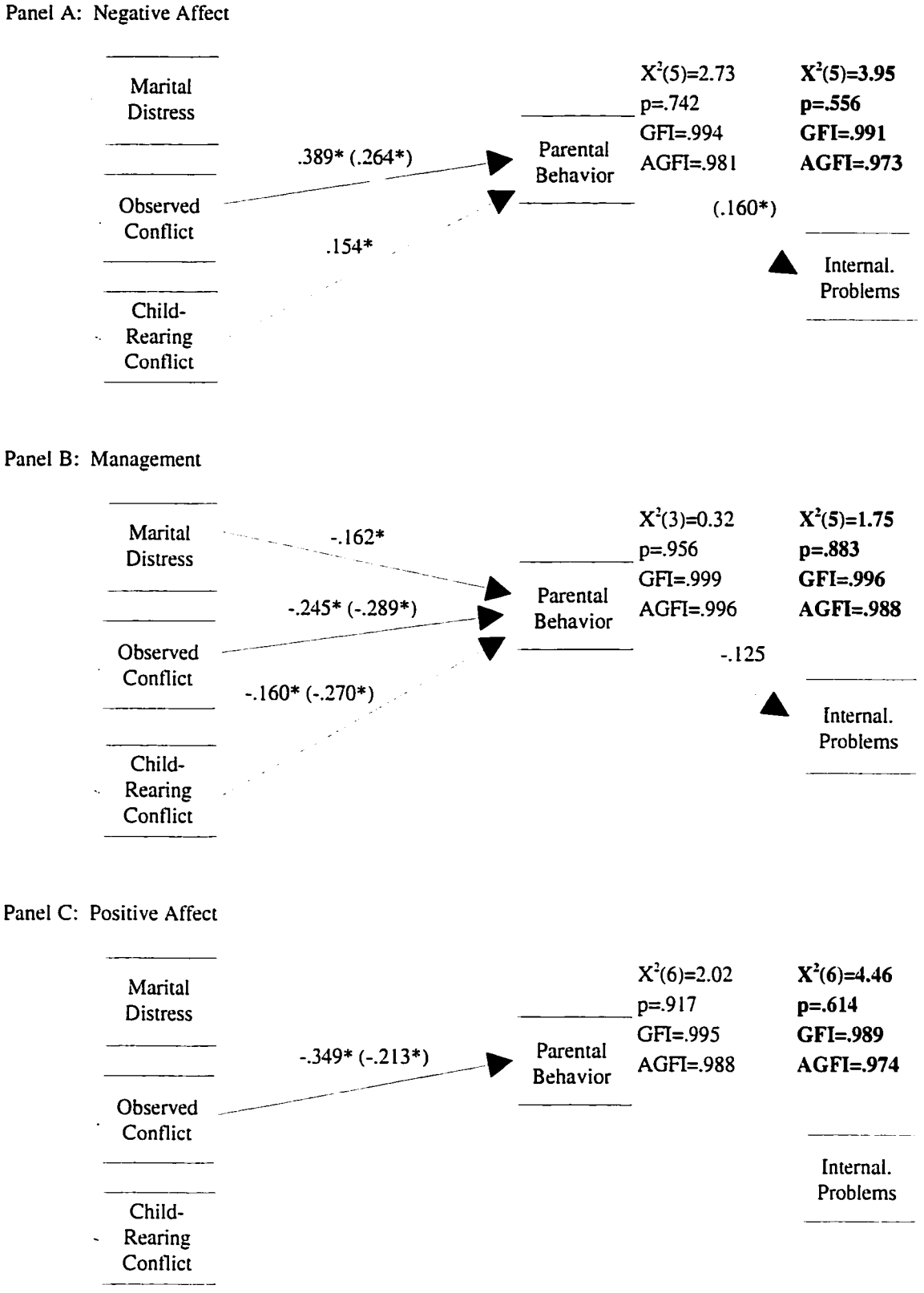
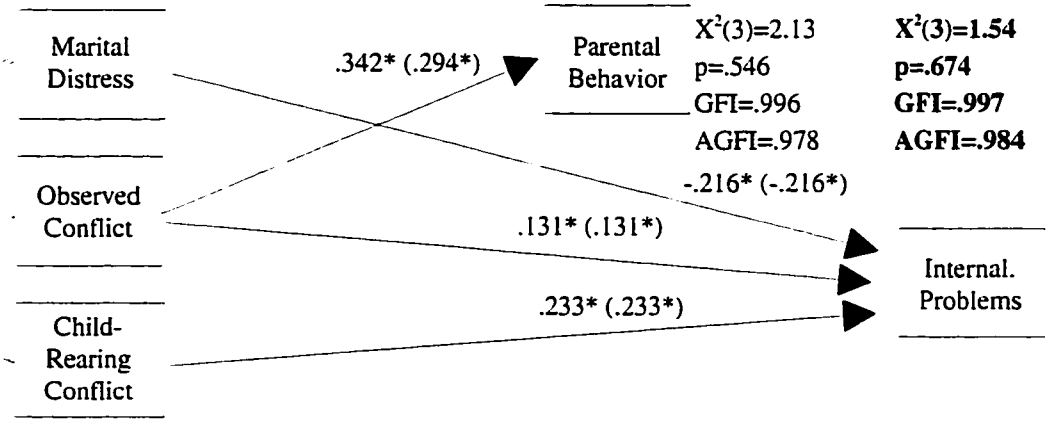


Figure 7. Standardized path coefficients for boys' internalization problems.

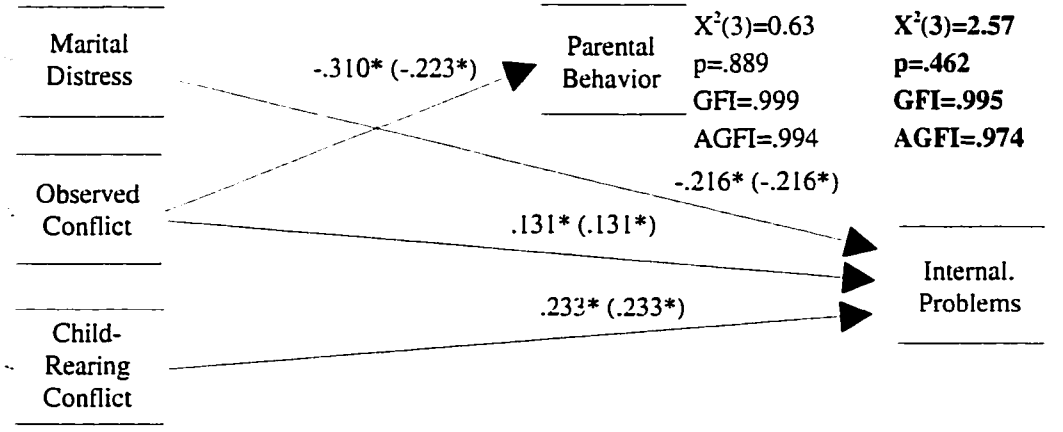
Fathers' Management had an influence on boys' internalization problems, but the effect fell just short of statistical significance (t = -1.642). Observed Marital Conflict and Conflict Over Child-Rearing each significantly predicted fathers' Management. Neither of these marital conflict measures had a significant indirect effect on boys' internalization through fathers' Management. Observed Conflict and Conflict over Child-Rearing significantly predicted mothers' Management, but Management did not mediate the relationship between the marital conflict measures and boys' internalization problems. Lastly, Observed Marital Conflict was significantly related to both fathers' and mothers' Positive Affect, but Positive Affect failed to mediate the relationship between Observed Conflict and boys' internalization. To summarize the results for boys' internalization problems, none of the marital conflict measures were significantly, directly related to internalization, and Observed Marital Conflict was the only measure to have a significant indirect effect through mothers' Negative Affect.

The trimmed models for girls' internalization problems are presented in Figure 8. The results were nearly the same for each mediating parental behavior for both fathers' and mothers' behavior. In almost every model, Marital Distress, Observed Marital Conflict, and Conflict over Child-Rearing were significantly, directly related to girls' internalization problems. The only exception was the mothers' Positive Affect model where Observed Marital Conflict had a direct influence on girls' internalization problems, but the effect was not statistically significant (t = 1.355). It should be noted however, that the direction of the relationship between Marital Distress and girls' internalization is negative although a positive relationship was hypothesized. The negative path coefficients suggest the more marital distress between the parents, the fewer internalization problems for girls. It could be argued that the negative coefficients are an artifact of the multicollinearity between the marital measures. The only parental behavior to have an impact on girls' internalization was mother's Positive Affect, and the influence was not statistically significant (t = -

Panel A: Negative Affect



Panel B: Management



Panel C: Positive Affect

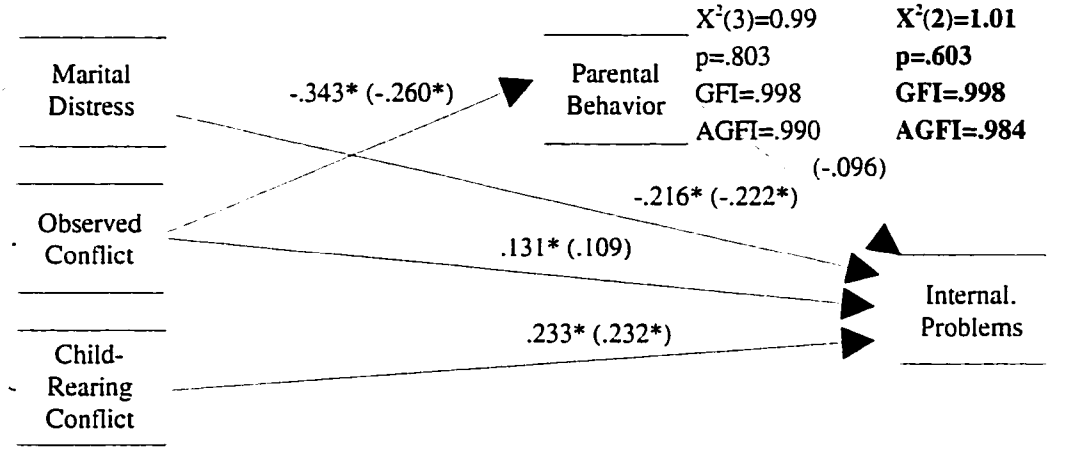


Figure 8. Standardized path coefficients for girls' internalization problems.

1.340). Lastly, Observed Marital Conflict significantly predicted all of the parental behavior measures for both fathers and mothers, but parental behavior did not mediate the relationship between Observed Marital Conflict and girls' internalization problems. To summarize, in nearly every instance, each of the marital conflict measures significantly, directly predicted girls' internalization problems, although the influence of Marital Distress was in the opposite direction from what was hypothesized.

CHAPTER FIVE:

DISCUSSION

What are the Specific Aspects of Marital Disharmony that Lead to Adolescent Adjustment Problems?

This study used data from the first three waves of the Iowa Youth and Families Project to examine how different aspects of marital conflict affect adolescent adjustment through different dimensions of parental behavior. A series of factor analyses indicated that there were three dimensions of marital discord among the study's marital measures: marital distress, observed marital conflict, and conflict over child-rearing. The first research question addressed which aspects of marital conflict are especially detrimental for adolescent outcomes. Conflict over child-rearing was related to deficiencies in emotional well-being for both adolescent males and females; Conflict over child-rearing was related to more externalization problems in boys, while observed marital conflict was related to more externalizing problems in girls. None of the dimensions of marital discord significantly (directly) predicted adolescent males' internalization problems, but marital distress, observed marital conflict, and conflict over child-rearing all significantly predicted girls' internalization, although the effect of marital distress on girls' internalization problems was negative. With only one exception, girls' externalization problems, conflict over child-rearing was the aspect of marital conflict that was most strongly related to adolescent functioning. This finding is consistent with previous studies that have demonstrated a significant negative effect of marital conflict pertaining to the topic of child-rearing on adolescent adjustment problems controlling for marital conflict on non-child topics and general marital distress (Dadds and Powell, 1991; Jouriles, Murphy, Farris, et al., 1991; Synder et al., 1988).

Which Aspects of Parental Behavior Mediate the Influence of Marital Conflict on Adolescent Adjustment Problems?

The study differed from previous research by determining the processes by which the different aspects of marital conflict have a negative impact on adolescent adjustment. A series of factor analyses indicated that there were three dimensions of parental behavior among the study's parenting measures: negative affect, management, and positive affect. Observed marital conflict was the only aspect of marital discord to have a significant indirect effect on the adolescent outcomes. Mother's negative affect mediated the effect of observed marital conflict on three adolescent outcomes: boys' externalization problems, girls' externalization problems, and boys' internalization problems. Mothers' positive affect mediated the effect of observed marital conflict on boys' emotional well-being and girls' externalization problems. Fathers' management mediated the effect of observed marital conflict on boys' and girls' externalization problems. The remaining parental behaviors, mother's management, fathers' negative affect, and fathers' positive affect mediated the effect of observed marital conflict on girls' externalization problems.

Do the Same Parental Behaviors Serve as Mediating Mechanisms for both Fathers and Mothers?

Another research question addressed by this study was whether the same parental behaviors for both fathers and mothers mediated the effect of marital conflict on child adjustment. Overall, affective dimensions of mothers' behaviors were more likely to mediate the influence of observed marital conflict than were the affective dimensions of fathers' behaviors. Either negative or positive maternal affect mediated the influence of observed marital conflict on four of the six outcomes for adolescent boys and girls. Fathers' affective behaviors (positive or negative) mediated the influence of observed marital conflict on only one of the outcomes, girls' externalization problems.

Do the Influences of Various Aspects of Marital Conflict Operate the Same Way on Three Separate Adolescent Outcomes?

A final research question addressed in the study was whether the various aspects of marital conflict influenced three separate adolescent outcomes in the same manner. Table 21 gives a summary of significant findings for each adolescent outcome. Overall similar findings were obtained for adolescent boys' and girls' emotional well-being and for adolescent boys' externalizing problems, but the findings for the other adolescent outcomes were quite different. Observed marital conflict had a significant indirect effect on boys' emotional well-being through mothers' positive affect. The more observed hostility, the less mothers' positive affect toward their sons, and, in turn, the lower boys' emotional well-being. In addition, conflict over child-rearing led to significant direct decreases in boys' emotional well-being for each of the mediating parental behaviors modeled except one (mothers' positive affect), and in that case a similar trend was present. The findings for girls' emotional well-being were similar to those for boys'. No aspect of either fathers' nor mothers' parental behavior mediated the influence of any aspect of marital conflict on girls' emotional well-being, but for every mediating parental behavior modeled, conflict over child-rearing led directly to significant decreases in emotional well-being. These results are consistent with Cummings argument that marital conflict threatens children's sense of emotional security. It may be that marital conflict pertaining to the topic of child-rearing is especially threatening and has a direct influence on children's and adolescents' emotional well-being.

Observed marital conflict had a significant indirect effect on boys' externalization problems, through mothers' negative affect and also through fathers' management. The more observed hostility between the married couple, the greater mothers' negativity toward their sons and the poorer management of sons by fathers, and, in turn, the more externalization problems among boys. In addition, marital conflict over child-rearing led to

Table 21. Summary of significant findings for each adolescent outcome.

Outcome	Significant findings
Boys' Emotional Well-being	Direct effect of marital conflict over child-rearing
	Indirect effect of observed marital conflict through mothers' positive affect
Girls' Emotional Well-being	Direct effect of marital conflict over child-rearing
Boys' Externalization Problems	Direct effect of marital conflict over child-rearing
	Indirect effect of observed marital conflict through mothers' negative affect and fathers' management
Girls' Externalization Problems	Direct effect of observed marital conflict
	Indirect effect of observed marital conflict through fathers' and mothers' negative affect, fathers' and mothers' management, and fathers' and mothers' positive affect
Boys' Internalization Problems	Indirect effect of observed marital conflict through mothers' negative affect
Girls' Internalization Problems	Direct effect of marital distress[a] Direct effect of observed marital conflict Direct effect of marital conflict over child-rearing

[a]Effect was in the opposite direction from what was hypothesized.

significant direct increases in boys' externalizing problems for each of the mediating parental behaviors modeled. The processes by which the different aspects of marital conflict affected girls' externalization problems were quite different than how they affected boys' externalizing problems. Observed marital conflict had a significant indirect effect on girls' externalization problems through all three aspects of parental behavior for both fathers' and mothers' behavior. The more observed conflict between the parents, the more parental negative affect expressed toward the daughter, the less effective management strategies used by the parents, and the less parental positive affect expressed toward the daughter. Each of these parental behaviors, in turn, led to greater externalization problems for girls. The significant indirect effects of observed marital conflict on girls' externalizing problems are consistent with the proposed conceptual model. In addition to the significant indirect effects of observed marital conflict on girls' externalization, observed marital conflict also significantly, directly contributed to increases in girls' externalizing problems.

Observed marital conflict had a significant indirect effect on boys' internalization problems through mothers' negative affect. The more observed hostility between the parents, the greater mothers' negative affect directed toward their sons, and, in turn, the more internalizing problems for boys. No aspect of marital conflict led to significant direct increases in internalizing problems for boys. None of the aspects of marital conflict had significant indirect effects through any of the parental behaviors on girls' internalization problems. Instead, the influence of marital conflict on girls' internalizing problems was all direct. In nearly every instance, more observed conflict and greater interparental conflict over child-rearing led to significant direct increases in girls' internalization symptoms, while controlling for general marital distress. These direct effects suggest that girls may be more sensitive to marital conflict than boys. This idea is consistent with the argument that females are more likely than males to carry the burdens of relationships and more likely to assume the roles of "kin keepers" and caregivers.

As mentioned previously, observed marital conflict was the only aspect of marital discord to exert significant indirect effects on the adolescent outcomes. One reason for this may be because of a method bias between observed marital conflict and the parental behaviors. Observed marital conflict and parental behaviors were both assessed by coder ratings of videotaped family interactions. Although the method was the same, the coders rating the marital behaviors were independent from the coders rating the parental behaviors.

The biggest surprise among the findings were the significant direct effects of interparental conflict over child-rearing on adolescent boys' and girls' emotional well-being, boys' externalization problems, and girls' internalization problems and of observed marital conflict on girls' externalizing behavior. These dimensions of marital conflict at wave 1 had significant influences on adolescent adjustment two years later, beyond the influence of parental behavior at wave 2. This was an unexpected finding. The conceptual model proposed that parental behavior at wave 2 would mediate the impact of the various aspects of marital conflict on adolescent adjustment. Although the parental behaviors were more proximate to the adolescent outcomes, in many cases, the parental behaviors were not significantly related to adolescent adjustment. For example, for adolescent emotional well-being, only parental positive affect influenced boys' well-being. None of the other parental behaviors approached significance. But in every instance, for both boys and girls, marital conflict over child-rearing directly predicted emotional well-being. It should be noted that a methods effect could explain the significant direct effects of interparental conflict over child-rearing on adolescent adjustment. Target adolescents reported on both interparental conflict over child-rearing and their own adjustment. Adolescent adjustment was assessed by the target adolescent's self-reports (except in the case of externalizing problems where sibling reports were also used). Both target adolescent and sibling reports were used together with parents' reports to measure marital conflict over child-rearing issues.

Another unexpected finding was that each of the dimensions of marital conflict was significantly related to girls' internalization problems. Both observed marital conflict and marital conflict over child-rearing were related to increased levels of internalizing symptoms for girls, controlling for general marital distress. Marital distress, however, was related to decreased levels of internalizing symptoms, controlling for the effects of observed marital conflict and conflict over child-rearing. It could be argues that the multicollinearity between the marital conflict measures is producing the negative association. Weisberg (1985) notes that collinear predictors typically cause large variations in estimated regression coefficients. Among parents of girls, marital distress correlated most strongly with the two other measures of marital conflict ($r = .438$ with observed conflict, and $r = .497$ with conflict over child-rearing). The other two marital measures correlated less strongly ($r = .378$). Furthermore, general marital distress correlated the least strongly among the marital conflict measures with girls' internalizing problems ($r = -.042$, ns).

Another interesting finding concerns the gender difference in the externalization problems models. For boys, it is the aspect of marital conflict pertaining to disagreements over child-rearing that exerts a significant, direct influence, while for girls it is the observed, overt hostility between parents that has a significant, direct, influence on externalization problems. One explanation for this gender difference could be that boys are more likely than girls to engage in surly behaviors that promote potential interparental disagreements concerning discipline.

Researchers have noted the importance of parental discipline strategies as a possible mechanism linking marital discord and particularly children's undercontrolled behavior, or externalization problems. Fauber and Long (1991) argue that marital conflict affects children only because it disrupts parenting behavior. The findings from the present study provide some support for their argument. Fathers' management mediated the effect of observed marital conflict on boys' and girls' externalization problems, while mothers'

management mediated the effect of observed marital conflict on girls' externalization problems, but not boys'. It was mothers' negative affect toward their sons that mediated the effect of observed conflict on boy's externalization problems. The more observed, overt hostility between the parents, the more likely mothers were to interact negatively with their sons, and such maternal behavior, in turn, related to greater levels of externalizing problems for boys. Parental management did not mediate the effect of marital conflict on any of the other adolescent outcomes.

Implications

An important question is, "What implications do these findings have?". One implication concerns the treatment of adolescents for emotional and behavioral problems. Given the significant direct effects of the various aspects of marital conflict over the course of a two-year time lag, clinicians need to be reminded that effective therapy for children and adolescents may involve a careful examination of the marital relation. If therapists concentrate their efforts only on behaviors in the father-child and mother-child dyads, the findings presented here would suggest that an important component of family life is being ignored. Dadds, Schwartz, and Sanders (1987) found evidence to support this idea. They found that among families with low marital discord, marital therapy had little effect on the treatment of child conduct disorders, but among families with high levels of marital discord, marital therapy combined with child management training resulted in significant reductions in child conduct problems compared to maritally distressed families who only received the child management training.

The findings from the present study also have important theoretical implications. Family researchers have proposed that marital conflict leads to child adjustment problems indirectly through parental behavior or aspects of the parent-child relationship. While most earlier empirical studies found some support for both negative and positive parental

affective behaviors mediating the effect of marital conflict on child and adolescent adjustment, fewer empirical studies have actually found support for disrupted parental management as a mediating mechanism. The findings of the present study give only limited support to the theory that marital conflict has detrimental consequences on adolescent adjustment through its association with parental behaviors. The only aspect of marital conflict to have significant indirect effects on adolescent adjustment was observed marital conflict. Furthermore, observed marital conflict had significant indirect effects on only some of the adolescent outcomes through only some of the parental behaviors. And in the case of girls' externalizing problems, the influence of observed marital conflict was not entirely indirect through parental behavior; it continued to also have significant direct effects on girls' externalizing problems.

For the most part, the findings of the present study did not support the theoretical proposition that marital conflict influences child and adolescent adjustment indirectly through parental behavior. For five of the six adolescent outcomes, at least one aspect of marital conflict had significant direct effects. Other empirical studies also have reported significant direct effects of marital conflict. Forehand, Wierson, et al. (1989) reported a significant direct effect of marital conflict on adolescents' internalizing problems, controlling for parental discipline and children's appraisals of the conflict. Among intact families, Fauber, Forehand, et al. (1990) also failed to find evidence for the mediating influence of three aspects of parental behavior. Instead they found a significant direct effect from marital conflict to children's externalizing problems. The findings from the present study suggest that parental behavior does mediate the influence of one aspect of marital conflict, observed marital conflict, in some situations, but parental behavior does not explain the complete relationship between marital conflict and adolescent adjustment. In terms of theoretical implications, the findings of the present study suggest that the mediational role of parental behavior is less than what is assumed by some family

researchers. It could also be argued, however, that the parental behaviors employed in this study were not measured well enough, or that different aspects of parental behavior are more influential and need to be considered.

Limitations

There are limitations to the present study. First, although the study employs a community sample, the characteristics of the sample may be biased toward less extreme forms of marital conflict. Criteria to participate in the study included that families be intact with a seventh grade adolescent. Therefore, most of the married couples were in their first marriages, and the average length of marriage was approximately 18 years. These characteristics describe marriages that are relatively stable. That is not to say that the marriages are incredibly satisfying or that they completely lack conflict, but the characteristics of the married couples should be considered when generalizing the results of this study. Forehand and McCombs (1989) note that they were surprised by the low levels of interparental conflict to which the adolescents in their study were exposed.

Data from three separate waves were used to help establish the proper causal ordering among the constructs in the conceptual model. Data from Wave 1 were used to assess the marital measures, while data from Wave 2 were used to measure parental behavior, and data from Wave 3 were used to assess adolescent adjustment. However, the influence of marital conflict may be more immediate than this arrangement reflects. It could be argued that marital conflict disrupts parental behavior and adolescent adjustment in a more contemporaneous time span. For example, the Spillover hypothesis probably suggests a contemporaneous effect from marital conflict to negative parental affect directed toward the children. Future analyses could examine the more immediate consequences of marital conflict on parental behavior and adolescent adjustment by repeating the analysis of the conceptual model with data from only one wave.

Another limitation of this study is that the marital conflict over child-rearing measure may be confounded with the parental management measure. Emery, Joyce, and Fincham (1987) note that disagreements over child-rearing are common among feuding marital partners and inconsistency between the parents is likely to result. For the present study, it could be argued that the measure of interparental disagreements over child-rearing is actually more of a reflection of parental behavior, specifically inconsistency in discipline between the parents. If this measure were used as a proxy variable for inconsistent discipline, then the direct effect from this measure to boys' and girls' emotional well-being, boys' externalizing problems, and girls' internalizing problems would then reflect a parenting effect. The interpretation taken here is opposite of that. It appears that the first parent-reported item is a measure of interspousal disagreements concerning the children. Furthermore, the position taken here is that the second parent-reported item and the child-reported item are really not good measures of inconsistent discipline, but, instead, do get at the level of interparental disagreements over raising children.

Suggestions for Future Research

This discussion concludes with suggestions for future research. An alternative procedure for forming the indices for the marital conflict and parental behavior constructs would be to use factor scores generated from the factor analyses. In future analyses, this technique will be explored. One future research question would be to examine how these aspects of marital conflict and parental behavior relate to changes in adolescent functioning. By controlling for the level of adolescent adjustment at Wave 1, a future examination of the data could determine whether the same aspects of marital conflict influences changes in adolescent adjustment problems and whether the same parental behaviors mediate the influence of marital conflict on changes in adolescent problems. Future research might also examine the potential moderating effects of the parental behaviors used in this study.

Neighbors, Forehand and McVicar (1993) found evidence to support a moderating effect of affective quality of the parent-child relationship. A good parent-child relationship moderated the negative impact of interparental conflict on adolescent cognitive competence. It may be that parental positive affect might buffer the stress of living in a maritally distressed home.

Finally, the present study focused exclusively on aspects of parental behavior as mediating mechanisms for the influence of marital conflict on adolescent adjustment. Other mechanisms have also been proposed to account for this relationship, such as children's perceptions and appraisals of the conflict. Grych and Fincham (1990) propose that the effect of interparental conflict is mediated by children's appraisals of the conflict which are shaped by the characteristics of the conflict. As part of the conflict over child-rearing measure, the present study used children's assessments of how often their parents disagreed about discipline. Future research could examine children's cognitive processes concerning their appraisals of marital conflict as a separate, potential mediating mechanism. Such processes might include children's perceptions of marital conflict in general or children's sense of self-blame for the interparental conflict.

APPENDIX A: MEASURES USED IN THE STUDY

Marital Distress

Marital Dissatisfaction (father report and mother report)

The numbers represent different degrees of happiness in your marital relationship. Indicate how happy you are, all things considered, with your marital relationship.

0 = extremely unhappy
1 = fairly unhappy
2 = a little unhappy
3 = happy
4 = very happy
5 = extremely happy

All in all, how satisfied are you with your marriage?

1 = completely satisfied
2 = very satisfied
3 = somewhat satisfied
4 = not very satisfied
5 = not at all satisfied

Marital Instability (father report and mother report)

Sometimes couples experience serious problems in their marriage and have thoughts of ending their marriage.

1 = never
2 = yes, prior to the last 3 years
3 = yes, within the last 3 years
4 = yes, within the last 3 months

Have you or your wife (husband) ever seriously suggested the idea of divorce?
Have you discussed divorce or separation from your wife (husband) with a close friend?
Even people who get along quite well with their spouse sometimes wonder whether their marriage is working out. Have you ever thought your marriage might be in trouble?
Did you and your wife (husband) talk about consulting an attorney about a possible divorce or separation?
Has the thought of getting a divorce or separation crossed your mind?

Marital Hostility (father report and mother report)

Please think about times during the past month when you and your wife (husband) have spent time talking or doing things together. Indicate how often your wife (husband) acted in the following ways toward you during the past month.

1 = always
2 = almost always
3 = fairly often
4 = about half of the time
5 = not too often
6 = almost never
7 = never

Get angry at you?
Criticize you or your ideas?
Shout or yell at you because she (he) was mad at you?
Ignore you when you tried to talk to her (him)?
Threaten to do something that would upset you if you didn't do what she (he) wanted?
Try to make you feel guilty?
Say you made her (him) unhappy?
Get into a fight or argument with you?
Hit, push, grab, or shove you?
Argue with you whenever you disagreed about something?
Cry, whine, or nag to get her (his) way?
Not do things you asked her (him) to do?

Observed Marital Conflict (Task 2 and Task 4)

1 = not at all characteristic
2 = mainly uncharacteristic
3 = somewhat characteristic
4 = moderately characteristic
5 = mainly characteristic

Hostility (Father toward mother and Mother toward father)

This scale measures the degree to which the focal displays hostile, angry, critical, disapproving, and/or rejecting behavior toward another interactor's behavior, appearance or state. The following behaviors are taken into account: nonverbal communication, such as facial expressions and body posture; emotional expressions, such as irritable, sarcastic, or curt tones of voice or shouting; and the content of the statements themselves.

Angry Coercion (Father toward mother and Mother toward father)

This scale assesses the degree to which the focal achieves goals, attempts to control or change the behavior or opinions of another interactor, or attempts to get another interactor to do what the focal wants in an angry, hostile manner with a specific objective in mind.

Antisocial (Father toward mother and Mother toward father)

This scale measures the degree to which the focal actively resists, defies or is inconsiderate of others by being noncompliant, insensitive, or obnoxious. The antisocial person is characteristically self-centered, egocentric, tends to "act out' in inappropriate ways, and demonstrates a lack of age-appropriate behaviors.

Transactional Conflict (Between Father and Mother)

This scale measures the degree to which member of the dyad demonstrate hostile, conflictual, angry-coercive and disapproving behavior and whether the interaction becomes progressively more negative. Look at the extent to which the members of the dyad initiate and/or reciprocate conflict.

Conflict Over Child-Rearing

Conflict over child rearing (father report and mother report)

Indicate how often you and your spouse disagree or get upset about the following topics.

0 = never
1 = hardly ever
2 = only sometimes
3 = quite often
4 = all the time

Discipline/raising children.

Indicate how you relate to your 7th grader and what kind of expectations you have of him or her.

1 = always
2 = almost always
3 = about half of the time
4 = almost never
5 = never

How often do you and your spouse disagree about punishing your 7th grader?

Conflict over child rearing (target adolescent report about father, target adolescent report about mother, sibling report about father, and sibling report about mother)

The next questions are also about your dad (mom). Indicate how often each of the following things occur.

1 = always
2 = almost always
3 = about half of the time
4 = almost never
5 = never

How often does your dad (mom) disagree with your mom (dad) about punishing you?

Negative Affect Parental Behavior (Task 1)

1 = not at all characteristic
2 = mainly uncharacteristic
3 = somewhat characteristic
4 = moderately characteristic
5 = mainly characteristic

Hostility (Parent toward target adolescent)

This scale measures the degree to which the focal displays hostile, angry, critical, disapproving, and/or rejecting behavior toward another interactor's behavior, appearance or state. The following behaviors are taken into account: nonverbal communication, such as facial expressions and body posture; emotional expressions, such as irritable, sarcastic, or curt tones of voice or shouting; and the content of the statements themselves.

Angry Coercion (Parent toward target adolescent)

This scale assesses the degree to which the focal achieves goals, attempts to control or change the behavior or opinions of another interactor, or attempts to get another interactor to do what the focal wants in an angry, hostile manner with a specific objective in mind.

Antisocial (Parent toward target adolescent)

This scale measures the degree to which the focal actively resists, defies or is inconsiderate of others by being noncompliant, insensitive, or obnoxious. The antisocial person is characteristically self-centered, egocentric, tends to "act out' in inappropriate ways, and demonstrates a lack of age-appropriate behaviors.

Verbal attack (Parent toward target adolescent)

This scale assesses personalized and unqualified disapproval of another interactor. Look for the presence of unkind statements that appear intended to demean, hurt, or embarrass the other person.

Management Parental Behavior (Task 1)

1 = not at all characteristic
2 = mainly uncharacteristic
3 = somewhat characteristic
4 = moderately characteristic
5 = mainly characteristic

Child Monitoring (Parent toward target adolescent)

This scale assesses the parent's knowledge and information, as well as the extent to which the parent pursues information, concerning the child's life and daily activities. It measures the degree to which a parent knows what the child is doing, where the child is, and with whom.

Consistent Discipline (Parent toward target adolescent)

This scale assesses the consistency and the persistence with which the parent maintains and adheres to rules and standards of conduct for the child's behavior and disciplines the child when the child violates rules and standards of conduct.

Parental Influence (Parent toward target adolescent)

This scale measures the parent's direct and indirect attempts to influence the child, not his/her success. Take into account the degree to which the parent attempts to regulate or control the child's life according to commonly accepted standards, conduct at home, developing and overseeing daily routines, setting standards for behavior away from home, or directing the child's behavior in the task.

Quality Time (Parent toward target adolescent)

This scale assesses the extent or quality of the parent's involvement in the child's life. Of particular interest is a sense of time "well-spent" vs. merely superficial involvement. Quality of the time relates to opportunities for conversation, companionship, and mutual enjoyment.

Positive Affect Parental Behavior (Task 1)

1 = not at all characteristic
2 = mainly uncharacteristic
3 = somewhat characteristic
4 = moderately characteristic
5 = mainly characteristic

Warmth/Support (Parent toward target adolescent)

This scale measures the degree to which the parent has a favorable reaction to the other person, takes an interest in the other person, and enjoys being with the other person. Four types of behavior are taken into account: nonverbal communication, such as physical gestures and eye contact; emotional expression, such as smiling, laughing; supportiveness, such as showing concern for the other's welfare; responsiveness such as head nods, asking questions to show interest in the other; and the content of the statements themselves.

Prosocial (Parent toward target adolescent)

This scale measures the focal's ability to relate competently and effectively with others. It includes demonstrations of cooperativeness, sensitivity, helpfulness, willingness to change own behavior for the other and willingness to comply with the needs and wishes of others.

Communication (Parent toward target adolescent)

This scale measures the ability of the focal as a communicator (verbal expressive skills and content of statements). It assesses the focal's ability to convey in a neutral or positive manner his/her needs and wants, rules and regulations, as well as to clearly convey information that may be useful to others.

Endearment (Parent toward target adolescent)

This scale assesses the personalized and unqualified approval of another interactor that conveys expression of extreme commitment, intimacy, caring, and global compliments regarding another's personal characteristics and/or attributing ongoing/global favorable or positive characteristics to a person.

Positive Reinforcement (Parent toward target adolescent)

The scale assesses the extent to which the parent's contingent responses to the child include the use of praise, approval, rewards, special privileges, or smiles. The parent's positive responses are contingent upon "appropriate child behavior" or upon child behavior that meets specific parental standards.

Encourages Independence (Parent toward target adolescent)

This scale measures the extent to which the parent encourages the child's independence in thought and actions. The parent reinforces the child's initiative, demonstrations of competence, and capabilities by encouraging the child to make decisions or do things on his/her own.

Adolescent Emotional Well-being

Adolescent Mastery (self report)

How strongly do you agree or disagree with these statements about yourself?

1 = strongly agree
2 = agree
3 = neutral/mixed
4 = disagree
5 = strongly disagree

There is really no way I can solve some of the problems I have.
Sometimes I feel that I'm being pushed around in life.
I have little control over the things that happen to me.
I can do just about anything I really set my mind to.
I often feel helpless in dealing with the problems of life.
What happens to me in the future mostly depends on me.
There is little I can do to change many of the important things in my life.

Adolescent Self-esteem (self report)

How strongly do you agree or disagree with these statements about yourself?

1 = strongly agree
2 = agree
3 = neutral/mixed
4 = disagree
5 = strongly disagree

I feel that I'm a person of worth, at least on an equal level with others.
I feel that I have a number of good qualities.
All in all, I am inclined to feel that I'm a failure.
I am able to do things as well as most other people.
I feel I do not have much to be proud of.
I take a positive attitude toward myself.
On the whole, I am satisfied with myself.
I certainly feel useless at times.
I wish I could have more respect for myself.
At times I think I am no good at all.

Adolescent Positive Affect

We would like to find out something about how you have viewed your life in general during the past month. During the past month, how much of the time . . .

1 = all of the time
2 = most of the time

3 = a good bit of the time
4 = some of the time
5 = a little of the time
6 = none of the time

Have you generally enjoyed the things you do.
Have you felt that the future looks hopeful and promising.
Has your daily life been full of things that were interesting to you.
Did you feel relaxed and free of tension.
Were you a happy person.
Has living been a wonderful adventure for you.

Adolescent Externalization Problems

Adolescent Antisocial Behavior (self report)

Please circle the number which tells how much each statement is like you.

1 = not at all
2 = a little
3 = somewhat
4 = a lot
5 = exactly

If someone hits me first, I let him have it.
When someone makes a rule I don't like, I want to break it.
When I get mad, I say nasty things.
When people yell at me, I yell back.
If someone annoys me, I tell him what I think of him.
When someone is bossy, I do the opposite of what he/she asks.
If I have to use physical violence to defend my rights, I will.

Adolescent Antisocial Behavior (sibling report)

Please indicate how much you agree or disagree that the following statements describe your brother or sister in the study

1 = strongly agree
2 = agree
3 = neutral or mixed
4 = disagree
5 = strongly disagree

He or she always gets into trouble.
He or she sometimes breaks the law.
He or she gets into a lot of fights.
People sometimes think he or she is a "bad" kid.

Adolescent Delinquency Checklist (self report)

The following is a list of behaviors related to laws and rules. We'd like to know whether you've done any of these things during the past 12 months. This is personal and confidential. No one will know how you answered these questions. Please be honest in answering them. During the past 12 months have you . . .

1 = never
2 = once
3 = 2-3 times
4 = 4-5 times
5 = 6 or more times

Run away from home.
Taken something worth less than $25 that didn't belong to you.
Taken something worth $25 or more that didn't belong to you.
Driven a car when drunk.
Cut classes, or stayed away from school without permission.
Taken a car or motor vehicle without the owner's permission, just to drive around.
Beat up on someone or fought someone physically because they make you angry (other than just playing around).
Gone to court or been placed on probation for something you did.
Been placed in juvenile detention or jail
Snatched someone's purse or wallet without hurting them.
Been drunk in a public place.
Purposely damaged or destroyed property that did not belong to you.
Broken into or tried to break into a building just for fun or to look around.
Broken into or tried to break into a building to steal or damage something.
Thrown objects such as rocks or bottles at people to hurt or scare them.
Attacked someone with a weapon, trying to seriously hurt them.
Sold illegal drugs such as pot, grass, hash, LSD, cocaine, or other drugs.
Used a weapon, force of strong arm methods to get money or things from someone.
Been picked up by the police for something you did.
Set fire to a building or field or something like that just for fun.
Sneaked into a movie, ballgame or something like that without paying.
Gotten into trouble for driving a car without a license.
Gotten a ticket for speeding or other traffic violations in a car.

Adolescent Substance Use (self report)

Next we'd like to know about any drug or alcohol use you have been involved with during the past 12 months. Please be honest. Remember that your answers are completely confidential. During the past 12 months, how often have you . . .

1 = never
2 = 1 or 2 times
3 = 3 to 11 times
4 = about 1-3 times per month
5 = about 1-2 times per week
6 = about 3 or more times per week

Smoked cigarettes, cigars, or a pipe.
Used smokeless tobacco, snuff, chewing tobacco.
Drunk beer.
Drunk wine or wine coolers (not at church).
Drunk hard liquor, such as bourbon, whiskey, vodka, or gin.
Used nonprescription drugs for fun or to get "high", such as Vivarin, No Doz, diet aids, etc.
Used marijuana, hashish, pot, grass, weed, etc.
Used gasoline, glue, or other inhalants to get high ("rush", solvents, etc.).
Used hallucinogens (LSD, mescaline, PCP, peyote, "shrooms", mushrooms, acid, etc.).
Used barbiturates (downers, Quaaludes, sopers, reds, etc.) or tranquilizers (Librium, valium, etc.).
Used amphetamines (speed, black cadillacs, white cross, crystal).
Used cocaine, "ice", crack, etc.
Used prescription drugs for fun or to get "high" without a doctor's prescription.

Adolescent Internalization Problems

Adolescent Anxiety Symptoms (self report)

The following is a list of problems and complaints that people sometimes have. How much discomfort has each problem caused you during the past week including today? During the past week, how much were you distressed or bothered by . . .

1 = not at all
2 = a little bit
3 = a moderate amount
4 = quite a bit
5 = extremely

Nervousness or shakiness inside.
Trembling.
Suddenly scared for no reason.
Feeling fearful.
Heart pounding or racing.
Feeling tense or keyed up.
Spells of terror or panic.
Feeling so restless you couldn't sit still.
The feeling that something bad is going to happen to you.
Thoughts and images of a frightening nature.

Adolescent Depressive Symptoms (self report)

The following is a list of problems and complaints that people sometimes have. How much discomfort has each problem caused you during the past week including today? During the past week, how much were you distressed or bothered by . . .

1 = not at all
2 = a little bit
3 = a moderate amount
4 = quite a bit
5 = extremely

Feeling low in energy or slowed down.
Thoughts of ending you life.
Crying easily.
Feelings of being trapped or caught.
Blaming yourself for things.
Feeling lonely.
Feeling blue.
Worrying too much about things.
Feeling no interest in things.
Feeling hopeless about the future.
Feeling everything is an effort.
Feelings of worthlessness.

APPENDIX B: MEANS, STANDARD DEVIATIONS, AND RANGES FOR STUDY MEASURES

Table B1. Means, standard deviations, and ranges for boys' study measures.

Measure	Mean	Standard Deviation	Minimum	Maximum
Marital Distress	-.29	2.37	-4.03	8.71
Observed Conflict	23.93	6.15	14.00	54.00
Conflict Child-Rear.	8.67	4.42	-2.49	25.30
Father Neg. Affect	6.09	2.31	3.00	14.00
Father Management	15.36	2.49	8.00	20.00
Father Pos. Affect	13.78	3.08	8.00	22.00
Mother Neg. Affect	5.89	2.32	3.00	15.00
Mother Management	15.26	2.50	9.00	20.00
Mother Pos. Affect	15.15	3.38	8.00	25.00
Emotional Well-Being	.24	2.28	-8.58	4.84
Externalizing Problems	.72	2.86	-4.25	9.24
Internalizing Problems	-.38	1.49	-1.81	6.26

Table B2. Means, standard deviations, and ranges for girls' study measures.

Measure	Mean	Standard Deviation	Minimum	Maximum
Marital Distress	.07	2.59	-3.84	12.48
Observed Conflict	24.14	6.34	14.00	45.00
Conflict Child-Rear.	8.23	4.44	-1.79	24.55
Father Neg. Affect	6.18	2.44	3.00	15.00
Father Management	14.53	2.83	7.00	20.00
Father Pos. Affect	13.31	3.33	6.00	23.00
Mother Neg. Affect	6.19	2.34	3.00	15.00
Mother Management	15.07	2.66	7.00	20.00
Mother Pos. Affect	14.45	3.16	7.00	23.00
Emotional Well-Being	-.14	2.66	-9.08	4.84
Externalizing Problems	-.80	2.66	-4.43	11.36
Internalizing Problems	.27	2.02	-1.81	9.95

APPENDIX C: ADDITIONAL TABLES

Table C1. Rotated factor loadings for Wave 2 marital measures using principal components extraction and varimax rotation.

Marital Measure	Marital Distress	Observed Conflict	Conflict over Child Rearing
Dissatisfaction-Father report	.732	.168	.132
Dissatisfaction-Mother report	.709	.122	.370
Instability-Father report	.822	.079	-.054
Instability-Mother report	.777	.010	.159
Hostility/coercion-Father report	.597	.379	.249
Hostility/coercion-Mother report	.487	.221	.571
Observed conflict-Task 2	.113	.811	-.012
Observed conflict-Task 4	.131	.761	.228
Conflict over Child Rearing- Parent Rep.	.176	.339	.731
Conflict over Child Rearing- Child Rep.	.062	-.056	.772

Table C2. Pattern matrix for Wave 2 marital measures using principal components extraction and oblimin rotation.

Marital Measure	Marital Distress	Observed Conflict	Conflict over Child Rearing
Dissatisfaction-Father report	.741	.065	.002
Dissatisfaction-Mother report	.688	-.000	-.256
Instability-Father report	.878	-.026	.203
Instability-Mother report	.809	-.110	-.036
Hostility/coercion-Father report	.547	.290	-.119
Hostility/coercion-Mother report	.407	.117	-.494
Observed conflict-Task 2	.000	.841	.125
Observed conflict-Task 4	-.007	.766	-.131
Conflict over Child Rearing- Parent Rep.	.031	.272	-.701
Conflict over Child Rearing- Child Rep.	-.036	-.133	-.808

Table C3. Rotated factor loadings for Wave 3 marital measures using principal components extraction and varimax rotation.

Marital Measure	Marital Distress	Observed Conflict	Conflict over Child Rearing
Dissatisfaction-Father report	.743	.098	.110
Dissatisfaction-Mother report	.761	.136	.278
Instability-Father report	.832	.077	-.087
Instability-Mother report	.796	.070	.132
Hostility/coercion-Father report	.664	.261	.287
Hostility/coercion-Mother report	.665	.185	.414
Observed conflict-Task 2	.116	.777	.132
Observed conflict-Task 4	.142	.829	.054
Conflict over Child Rearing- Parent Rep.	.306	.344	.719
Conflict over Child Rearing- Child Rep.	.086	-.007	.883

Table C4. Pattern matrix for Wave 3 marital measures using principal components extraction and oblimin rotation.

Marital Measure	Marital Distress	Observed Conflict	Conflict over Child Rearing
Dissatisfaction-Father report	.767	.010	.017
Dissatisfaction-Mother report	.755	.012	-.151
Instability-Father report	.893	-.026	.238
Instability-Mother report	.824	-.049	-.000
Hostility/coercion-Father report	.629	.158	-.161
Hostility/coercion-Mother report	.625	.065	-.304
Observed conflict-Task 2	-.025	.799	-.022
Observed conflict-Task 4	.004	.858	.069
Conflict over Child Rearing- Parent Rep.	.169	.256	-.664
Conflict over Child Rearing- Child Rep.	-.028	-.101	-.917

Table C5. Factor correlation matrices for marital measures using oblique rotations.

Panel A: Wave 2 Marital Measures

	Marital Distress	Observed Conflict	Child-Rearing
Marital Distress	1.000		
Observed Conflict	.314	1.000	
Child-Rearing	-.324	-.248	1.000

Panel B: Wave 3 Marital Measures

	Marital Distress	Observed Conflict	Child-Rearing
Marital Distress	1.000		
Observed Conflict	.324	1.000	
Child-Rearing	-.378	-.215	1.000

Table C6. Rotated factor loadings for Wave 1 fathers' parenting measures using principal components extraction and varimax rotation.

	Negative Affect	Management	Positive Affect
Harsh Discipline	.305	-.000	-.115
Hostility	.872	-.080	-.203
Angry Coercion	.759	-.072	-.102
Antisocial	.775	-.098	-.264
Verbal Attack	.557	-.089	.051
Inductive Reasoning	-.053	.311	.330
Child Monitoring	-.105	.677	.246
Consistent Discipline	-.225	.656	.048
Parental Influence	.205	.774	.210
Quality Time	-.190	.539	.347
Warmth/Supportive	-.169	.233	.779
Prosocial	-.335	.336	.643
Communication	-.164	.346	.645
Endearment	-.009	-.230	.665
Positive Reinforce.	-.190	.293	.669
Encourages Indepen.	-.104	.185	.657

Table C7. Pattern matrix for Wave I Fathers' parenting measures using principal components extraction and oblimin rotation.

	Negative Affect	Management	Positive Affect
Harsh Discipline	.308	-.050	-.070
Hostility	.878	-.022	-.084
Angry Coercion	.772	-.005	.006
Antisocial	.769	-.005	-.159
Verbal Attack	.577	-.054	.144
Inductive Reasoning	.024	-.237	.306
Child Monitoring	-.034	-.662	.140
Consistent Discipline	-.182	-.661	-.083
Parental Influence	.290	-.796	.128
Quality Time	-.122	-.493	.257
Warmth/Supportive	-.074	-.105	.767
Prosocial	-.254	-.221	.584
Communication	-.076	-.246	.607
Endearment	.045	.357	.742
Positive Reinforce.	-.104	-.184	.638
Encourages Indepen.	-.024	-.080	.654

Table C8. Rotated factor loadings for Wave 1 mothers' parenting measures using principal components extraction and varimax rotation.

	Negative Affect	Management	Positive Affect
Harsh Discipline	.325	-.004	-.167
Hostility	.871	-.077	-.234
Angry Coercion	.800	-.055	-.098
Antisocial	.753	-.068	-.335
Verbal Attack	.622	-.071	.139
Inductive Reasoning	.070	.288	.347
Child Monitoring	-.033	.675	.188
Consistent Discipline	-.160	.702	-.010
Parental Influence	.228	.743	.135
Quality Time	-.168	.613	.239
Warmth/Supportive	-.197	.286	.746
Prosocial	-.393	.191	.682
Communication	-.225	.159	.730
Endearment	-.041	-.017	.622
Positive Reinforce.	-.195	.178	.543
Encourages Indepen.	-.157	.176	.420

Table C9. Pattern matrix for Wave 1 mothers' parenting measures using principal components extraction and oblimin rotation.

	Negative Affect	Management	Positive Affect
Harsh Discipline	.314	-.037	-.137
Hostility	.864	.005	-.125
Angry Coercion	.809	.009	.006
Antisocial	.731	-.015	-.250
Verbal Attack	.653	.074	.241
Inductive Reasoning	.150	-.210	.340
Child Monitoring	.015	-.676	.071
Consistent Discipline	-.138	-.734	-.162
Parental Influence	.280	-.767	.034
Quality Time	-.119	-.597	.120
Warmth/Supportive	-.099	-.163	.720
Prosocial	-.313	-.067	.644
Communication	-.136	-.032	.723
Endearment	.033	.128	.663
Positive Reinforce.	-.115	-.201	.466
Encourages Indepen.	-.091	-.322	.440

Table C10. Rotated factor loadings for Wave 3 fathers' parenting measures using principal components extraction and varimax rotation.

	Negative Affect	Management	Positive Affect
Harsh Discipline	.182	-.125	-.184
Hostility	.862	-.094	-.171
Angry Coercion	.721	-.041	-.139
Antisocial	.838	-.0181	-.206
Verbal Attack	.634	-.047	.124
Inductive Reasoning	-.046	.197	.204
Child Monitoring	-.040	.770	.190
Consistent Discipline	-.257	.616	-.004
Parental Influence	.261	.728	.189
Quality Time	-.252	.693	.093
Warmth/Supportive	-.165	.346	.651
Prosocial	-.425	.392	.491
Communication	-.320	.346	.456
Endearment	.033	-.109	.783
Positive Reinforce.	-.226	.236	.516
Encourages Indepen.	-.100	.140	.607

Table C11. Pattern matrix for Wave 3 fathers' parenting measures using principal components extraction and oblimin rotation.

	Negative Affect	Management	Positive Affect
Harsh Discipline	.106	-.139	-.192
Hostility	.848	.001	-.106
Angry Coercion	.701	.026	-.100
Antisocial	.826	-.070	-.119
Verbal Attack	.685	.026	.208
Inductive Reasoning	-.037	.097	.358
Child Monitoring	.065	.780	.054
Consistent Discipline	-.171	.645	-.126
Parental Influence	.366	.763	.081
Quality Time	-.146	.715	-.034
Warmth/Supportive	-.087	.241	.606
Prosocial	-.346	.267	.411
Communication	-.274	.336	.353
Endearment	.074	-.237	.847
Positive Reinforce.	-.141	.358	.447
Encourages Indepen.	-.039	.047	.609

Table C12. Rotated factor loadings for Wave 3 mothers' parenting measures using principal components extraction and varimax rotation.

	Negative Affect	Management	Positive Affect
Harsh Discipline	.092	-.105	-.063
Hostility	.884	-.019	-.140
Angry Coercion	.835	.013	-.076
Antisocial	.847	-.115	-.102
Verbal Attack	.263	.095	-.024
Inductive Reasoning	-.058	.150	.111
Child Monitoring	.026	.750	.141
Consistent Discipline	-.308	.587	.146
Parental Influence	.102	.763	.106
Quality Time	-.321	.630	.198
Warmth/Supportive	-.305	.200	.658
Prosocial	-.344	.173	.576
Communication	-.314	.306	.482
Endearment	-.015	-.081	.784
Positive Reinforce.	-.313	.304	.586
Encourages Indepen.	-.058	.170	.591

Table C13. Pattern matrix for Wave 3 mothers' parenting measures using principal components extraction and oblimin rotation.

	Negative Affect	Management	Positive Affect
Harsh Discipline	.063	-.105	-.046
Hostility	-.903	.061	-.016
Angry Coercion	-.872	.084	.038
Antisocial	-.856	-.038	.039
Verbal Attack	-.176	.135	.021
Inductive Reasoning	-.023	.100	.043
Child Monitoring	-.122	.767	.059
Consistent Discipline	.244	.592	.060
Parental Influence	-.159	.791	-.076
Quality Time	.256	.604	.078
Warmth/Supportive	.201	.091	.620
Prosocial	.416	.065	.460
Communication	.247	.220	.456
Endearment	-.103	-.176	.857
Positive Reinforce.	.212	.214	.534
Encourages Indepen.	-.053	.091	.592

Table C14. Factor correlation matrices for Waves 1 and 3 parenting measures using oblique rotations.

Panel A: Wave 1 Fathers' Parenting

	Negative Affect	Management	Positive Affect
Negative Affect	1.000		
Management	.204	1.000	
Positive Affect	-.266	-.320	1.000

Panel B: Wave 1 Mothers' Parenting

	Negative Affect	Management	Positive Affect
Negative Affect	1.000		
Management	.138	1.000	
Positive Affect	-.256	-.345	1.000

Panel C: Wave 3 Fathers' Parenting

	Negative Affect	Management	Positive Affect
Negative Affect	1.000		
Management	-.263	1.000	
Positive Affect	-.192	.336	1.000

Panel D: Wave 3 Mothers' Parenting

	Negative Affect	Management	Positive Affect
Negative Affect	1.000		
Management	.211	1.000	
Positive Affect	.324	.278	1.000

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